

American Fruit Grower

WESTERN EDITION

OCTOBER • 1958

Red Cherries Are Pride of
Tom Oyler

Why the Pugsleys
Hay-Mulch Their Grapes

The Advantages of Dwarf
Pear Trees



The Pattern of Tomorrow's Fruit Industry

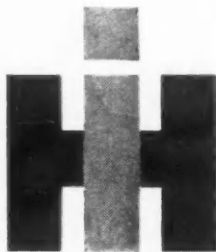
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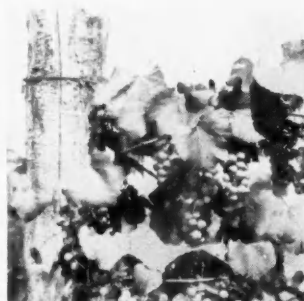
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OCTOBER, 1958



American Fruit Grower

Cover photograph showing grapes is by J. C. Allen and Son. Grape production for 1958 was forecast by USDA on September 1 at 2,809,480 tons, 8% more than in 1957.

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OCTOBER, 1958

No. 10

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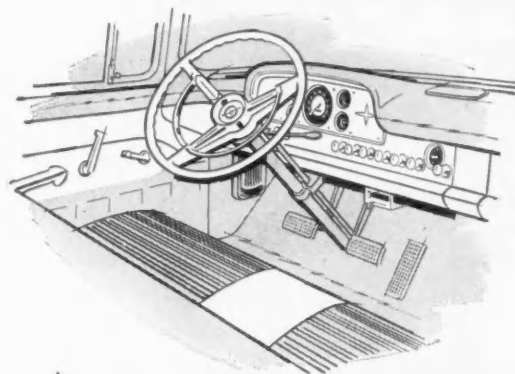


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LETTERS TO THE EDITOR

Fruit Growing Stamp

Dear Editor:

I would like to augment a short article by H. J. Ashe, *A Stamp For Fruit Growers* (March, 1958). Mr. Ashe stated that so far farming has been represented in commemorative stamp issues by only two stamps. He pleads for a stamp honoring American fruit growers.

Although not a commemorative in the strict sense of the word, three stamps of the parcel post series of 1912, and still used, honored the agricultural industry. The highest value of this series, the \$1.00 stamp, featured fruit growing and showed an apple harvest scene (see cut).

Other stamps featuring farming and horticulture include scenes of dairying, grain harvesting, a portrait of Luther Burbank, farming in the West, tree planting, farming in Alaska, a farm panorama, "The Sower," a wheat farm, and a gardening commemorative.

College Park, Md. Albert A. Piring, Jr.

A 3-cent stamp commemorating the 100th birthday anniversary of Liberty Hyde Bailey, world-renowned horticulturist, was issued in March, 1958.—Ed.



Photo: The Smithsonian Institution
"Fruit Growing" stamp issued in 1912.

Mom's Peaches

Dear Editor:

This year for the first time I discovered canned Elberta peaches. They were ragged but most important they tasted like the kind mom used to can. I have since run across them only once.

The picture on the Elberta can is obviously a picture of a tree-ripened peach broken in half. It is a beautiful picture—but not of the contents of the can.

The yellow cling label has a picture representative of its contents. Why the difference?

The American people are discriminating. They resent having a company foist off merchandise with false or misleading advertising, however good the merchandise may otherwise be.

I'm tired of eating oily, insipid, photogenic peaches. When do I get the real McCoy?

Monroeville, Ind.

Jack Long

Located on well-traveled highway? Then you may want to attract the motorist with a good-looking display of fruits. Working drawings for an attractive, easy-to-build roadside stand are available for \$2.00 from AMERICAN FRUIT GROWER, Willoughby, Ohio.

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• Fruit for Health •



Photo courtesy: A. N. Pratt

The family-type operation is in danger of giving way to larger units unless growers keep up with technological changes. Tom Anderson, of Toone, Tenn., shown with his wife, is a progressive grower who uses small plane for business trips.

The Pattern of Tomorrow's FRUIT INDUSTRY

Will growers be able to keep up with changes in the future? Here are some ideas to consider

By **JOHN H. DAVIS**
Harvard University

IF we look back over the past 150 years, we can see two trends that likely will characterize the future. On the one hand, we have seen the spinning off of some functions from the farm, such as the manufacturing of farm supplies and the processing and distribution of farm products. Simultaneously, running counter to this trend, has been an effort to link these functions back together—putting together related functions in some form of vertical integration.

The choice is not whether we will move in this direction, but how. Our task is to guide these forces in a manner that will contribute most to the welfare of the farm, business, and the public.

Vertical integration is really not new except in scope and method. One of the earliest types of vertical integration was the grower co-operative, an organization through which a group of growers could set up an off-farm business entity which they owned, to perform such operations as grading, packaging, or

processing the things they produced. This type of program, which dates back about 75 years, had its greatest impetus in the 1920's. Some advocates felt then that with ironclad contracts and 100% sign-up, you could control the market and bring about orderly marketing. This program was tried with prunes, apricots, raisins, tobacco, and a few other commodities. It fell of its own weight because production ran ahead of what the markets would take.

Another type of "tying-together" of related on- and off-farm functions has been a contract between business firms and growers. This type was started well over 50 years ago by the canning processors. Since then it has become common practice, not only with respect to canning crops but also in seed production and more recently in the poultry business.

Another type of vertical "tying-together" that has happened spontaneously has been in the development of big units—big enough in themselves to have certain related on- and off-farm operations tied to them. This has happened in some of our vegetable operations. Large

multiple retail operations, like the chain stores, tend to push vegetable growers in this direction because such firms demand a quantity of uniform, high quality products.

There also have emerged such vertical structures as marketing agreements and farm support programs—both of which involve some government participation.

The trend toward the vertical tying-together of on- and off-farm functions will tend to grow in the future—fed largely by technology.

In this period of merger and integration of food firms, it is becoming harder for a group of growers to keep up. This particularly is true with respect to existing co-ops that started on a single commodity basis. It is hard to get intercommodity co-operation on a large scale in order to compete with proprietary firms that handle many kinds of foods—often under one brand name. Much will depend on the quality of co-op management and research. In general, grower co-operative management is underpaid and its research budgets are low.

However, the co-operative which
(Continued on page 26)

Red Cherries Are TOM OYLER'S PRIDE

A visit to Tom's orchards in Pennsylvania shows the importance of that 'personal touch' in growing fruit successfully

By FRANK N. HEWETSON

*Pennsylvania State University
Fruit Research Laboratory, Arendtsville*

RED cherry pie. Who has not tasted this delicious dessert and wanted more. Tom Oyler, of Adams County, south central Pennsylvania, does not make the pies, but he certainly can grow the cherries that make everybody ask for a second piece of pie.

Tom operates 368 acres of orchards, of which 52 are in red cherries and the balance in apple and peach.

While most of the orchards are near the village of Arendtsville at an elevation of around 700 feet, one of the peach and cherry orchards is located in the Blue Ridge mountains at an elevation of 1300 feet.

This combination enables Tom to pick fruit from the lower orchard and then move on to the mountain orchard when the fruit is just ready to be harvested. The week's difference in maturity enables him to spread out the harvesting season and, thus, use the same picking crew at both places.

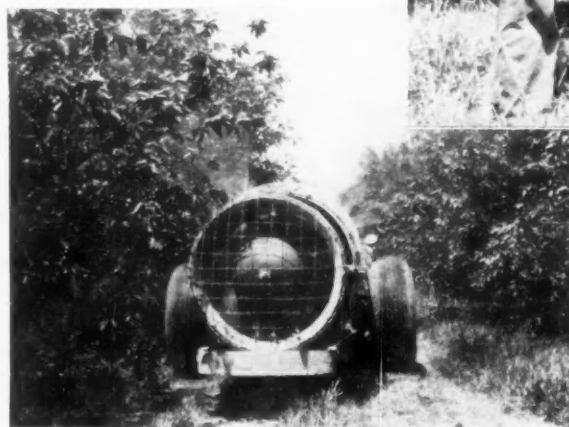
This difference in elevation also makes it possible to spray the lower orchard and then move up to the mountain orchard with the same spray.

Tom is on the job day and night. During a frost period he will sit up all night watching the thermometer, and if the temperature should drop to a critical point, he will be out in the orchard lighting his heaters. Even when the weather is normal, he is in the orchard from dawn to dusk working with his six regular employees. Modern fruit growing requires skilled help, and Tom has trained a crew which can take on any job. He hires extra help for pruning and harvesting.

Modern fruit growing also calls for good judgment based on the evaluation of the newer materials and practices developed by industry and tested by agricultural experiment stations throughout the country. Tom studied pomology at Pennsylvania

State University for two years, and he frequently visits the university's Fruit Research Laboratory at Arendtsville, where he consults with Dean Asquith and Dr. Fred Lewis on insect and disease problems, or the author on cultural problems.

In setting out a new cherry orchard, Tom prefers locally-grown 9/16- to 11/16-inch trees which he now plants 22 x 25 feet apart. He uses a Danuser 14-inch post hole digger, and he has gotten almost 100%



Photos by the author.

success by planting in the fall between November 15 and December 1. The following spring he fertilizes the trees with 1½ pounds of nitrate of soda per tree and maintains this rate until the trees come into bearing. To prevent any burning, he applies the fertilizer in a wide band at least 3 feet from the trunk of the tree.

When the trees come into bearing he changes over to a broadcast method of fertilizer application which consists of 400 pounds of an 0-20-20 per acre broadcast in the fall every other

year, and nitrate of ammonia at 300 pounds per acre applied each spring, preferably by March 15 if possible. In the bearing orchard, Tom applies both the 0-20-20 and the nitrate of ammonia with an Ezee Flow spreader.

In the fall when the trees are planted, a mixture of 5 pounds of winter vetch, 2 pounds of ladino clover, and 13 pounds of annual ryegrass is sown, and the land fertilized with 350 pounds of 3-12-12 per acre. The following year a tree hoe is used to control the weeds around the trees,



Above: Tom uses Wood rotary cutter for mowing; here he stops to check on leaf spot.

Bean speed sprayer in action in Tom's orchard.

and the cover is moved. The ryegrass seeds itself if the mowing is done early enough.

The second and subsequent springs the cover is disked along the tree rows, leaving a strip in the middle, which provides enough seed to reseed the disked portion of the rows and maintain a semi-permanent cover in the orchard.

Tom believes that light annual pruning produces larger yields with better fruit size and color than heavy pruning every other year.

The young trees are first trained to a central leader, which is cut off at 6 to 7 feet. The second year, branches with good crotches are selected and the ones with poor crotches are removed. These selected branches are then cut back a few inches and allowed to develop. The lowest branch is kept 18 inches from the ground.

The trees are kept low so that all picking can be done from a 7-foot ladder. By using a Bud-Air pruner with a Quincy compressor, he needs only six men to do what it would take 12 men to do with hand pruners.

The spraying program used by Tom follows closely the one recommended by the county agent at Gettysburg in consultation with extension specialists of Pennsylvania State University.

Depending on the conditions at the time, he may use a superior oil or dinitro materials in his dormant spray, and Bordeaux in his preblossom sprays. Petal fall spray calls for parathion plus Bordeaux, ferbam, or glyodin. Later sprays at shuck fall, the three cover sprays, preharvest and postharvest sprays call for parathion, ferbam, glyodin, lead arsenate, sulfur, captan, and DDT, as the occasion requires.

Both Friend and Bean speed sprayers are used throughout the growing season. In the spring these sprayers are hauled by a Caterpillar crawler tractor and during the summer, by a Ford 860 wheel tractor.

Tom considers proper timing and adequate coverage as important factors in his success as a cherry grower. He will spray all night if conditions justify this inconvenience. Normally, he prefers evening or early morning sprays when the air is calm and he can get good coverage. This year he even sprayed during the rain because of a five-day rainy period during the petal fall stage.

Tom averages about 5 tons per acre on his 10-year-old trees, which is good for this area, though higher yields have been obtained in especially favorable locations and situations.

Up until a few years ago, cherry production was profitable in this area, but with lower prices for the fruit and increased cost of labor and ma-

terials, growers are having a hard time making a profit. Better prices for peaches and apples enable Tom and the other cherry growers to carry on until a solution is found. As a member of the recently-formed Great Lakes Cherry Producers Marketing Co-operative, Inc., Tom hopes to

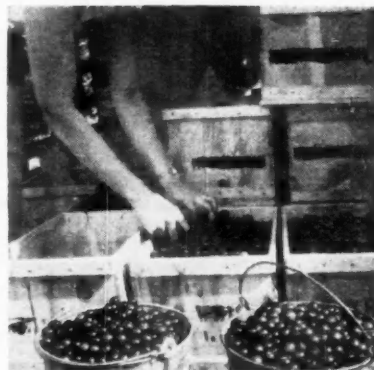


Photo by Michacla Pyle
At checking station, defective cherries, stems are picked out, increasing grade of fruit 5%.

remedy this situation by boosting and stabilizing prices of red cherries.

Cherries from the Oyer farm are sold to Knouse Foods Co-operative at Peach Glen in Adams County. As soon as the fruit is picked and brought to the checking station in the orchard, the checkers look over the fruit and pick out stems and defective fruit. Tom claims that this one operation increases his grade by at least 5%. The cherries are kept in the shade after they have been checked, and, if at all possible, they are taken into the factory not later than four hours after they are picked.

Fellow growers recognized Tom as an outstanding cherry grower when they elected him president of Pennsylvania Red Cherry Growers Association for three years, from 1950 to 1952. Pennsylvania State University also asked him to serve on Pennsylvania Horticulture Council, where he is currently chairman of the legislative committee and chairman of the council's fruit division. THE END.

MINNOW NET REDUCES CHERRY BRUISING

PICKING cherries with a minnow net shows promise in speeding up the harvesting operation and in reducing bruising.

The new technique developed at Michigan Agricultural Experiment Station consists of loosening cherries from the tree with the fingertips and allowing the fruit to fall into a minnow net suspended on a frame under the tree. The net absorbs the impact of the fall from the tree.

R. T. Whittenberger and C. H. Hills, chemists with USDA Agricultural Research Service at the eastern utilization division, Philadelphia, Pa., experimented with this method. They found that cherries harvested in this way bruised only slightly as they struck twigs or branches during their fall to the net. Only a trivial amount of scald, caused by bruising, developed.

Cherries kept well for a week at 35° F. with no spoilage. They could be stockpiled for a few days and processed as needed. This, say the researchers, would eliminate brief and spotty plant operation, avoid plant overloading, and reduce the number of soaking tanks and amount of water needed.

In 10 tests with four pickers, net-harvesting yielded an average of 36% more cherries than did pail-picking during the same time.

When ripe cherries were shaken from trees onto the net, almost 10 times more cherries were harvested in the same time compared with pail-

picking. Studies revealed that one worker could harvest 100 pounds in a little over 10 minutes.

Although branch-shaking bruises cherries as much as pail-picking, the speed of the former method may reduce labor costs by about 90%. At present, a large, temporary, and hard-to-get labor supply is a major expense in cherry harvesting.

A variation in branch-shaking also resulted in rough separation of cull and good cherries. Culls are loosely attached to the tree and will fall first. In one test, 50% culls fell in a preliminary shaking. Later shaking produced mostly good cherries.

Although it is probably impossible to eliminate bruising altogether in present commercial and canning operations, ARS workers are continuing study of both the frame-picking and branch-shaking methods as a possible solution to the problem of reducing orchard bruising.

INTERNATIONAL HORT SHOW IN ROTTERDAM

Although 1960 seems a long time away, it is not too early for fruit growers to make plans for a European trip in that year and a visit to the International Horticultural Show at Rotterdam in The Netherlands.

Sponsored by International Association of Horticultural Producers, the event is scheduled between March and September, 1960. The Netherlands Horticultural Council, which embraces all the horticultural bodies in The Netherlands, will be in charge of organizing the show in co-operation with Royal Netherlands Society for Horticulture and Botany.

The display will feature not only fruit and shade trees, but also vegetables and flowers.

The date has been set for 1960 because this is the year that Royal General Dutch Bulb Growers Society celebrates its centennial anniversary. Moreover, it will be four centuries ago that the tulip, which has played such an important part in the history of The Netherlands' horticulture, was introduced into Europe.



● Illinois Reports on Golden Delicious Russet Sports
● New England C-A Storage Capacity Is Increasing

Heads Hort Association

PENNSYLVANIA—Wayne H. Edelman has taken over his duties as the first full-time executive secretary of State Horticultural Association of Pennsylvania. A graduate of Pennsylvania State University, he will work directly with the state's fruit growers in preparing an active year-round program for the organization. His office location is Pennsylvania Farmers' Association, 21st and Yale Sts., Camp Hill, Penn.

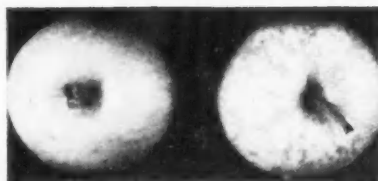


Golden Delicious Russet Sports

ILLINOIS—During the past three years I have observed the horticultural characteristics and investigated the quality and keepability of the fruit of three Golden Delicious apple trees which bear russeted fruits each year. Two of these trees are in a 24-year-old orchard near Barrington and the third in a 14-year-old orchard near Roodhouse.

These trees apparently were propagated accidentally from russet sport wood in the nursery. One of the trees in the Barrington orchard has five small sport limbs which produce non-russeted apples. We have received reports of other whole trees or limbs of Golden Delicious which consistently bore russeted apples. It seems quite probable that these are actually sports.

The three trees are quite similar to adjacent trees in size, vigor, and general tree characteristics. The apples on all three are normal in size but they mature three to four days later than on adjacent non-russeted trees. At maturity, the russeting varies from light to moderate netting, which covers 10 to 20% of the



Range in amount of surface covered with russet. Left apple: netted; right: completely covered.

surface, to solid russet, which covers 90 to 95% of the surface. The solid russet is quite prevalent on the tree having the non-russet sport limbs and is seldom found on the other two trees. It seems possible that limbs which have sported to the solid russet type are present on this tree.

Apples from each of these trees have been consistently higher in quality than apples from adjacent trees. This is shown by a 10 to 15% higher sugar content, 12 to 15% higher dry matter content, and 10 to 20% higher acid content. These

differences occurred not only at harvest but were still present after 120 days' storage. In fact, there was a marked tendency for the difference to increase in storage. That the higher percentage of dry matter in the russeted fruit was not caused by the russet is shown by the fact that the same differences prevailed in the flesh of peeled apples.

In an environment necessary for satisfactory storage of normal Golden Delicious, 30 to 32° F. and 90 to 95% relative humidity, the russeted apples kept satisfactorily. Their weight loss was usually more than that of the non-russeted apples but not enough to cause visible shrivel up to 180 days in storage.

It is probably true that it would be difficult to establish a fresh market for russet Golden Delicious, but their higher quality makes them desirable, at least potentially, for all processing purposes, particularly for juice and baby food manufacture.

Other sports, both russeted and non-russeted, with still higher quality may be occurring in Golden Delicious. The widespread variability in the yellow color of

mature Golden Delicious leads one to suspect that this difference is not all caused by growing conditions, and that a significant part of it may well be due to sporting.

It is desirable for growers and investigators alike to be keenly observant for the occurrence of variations that may be sports and to give detailed study to those which are found. This could lead to great improvements in the quality and keepability of Golden Delicious.—Richard F. Lott, U. of Ill., Urbana.

Cuts Reefer Car Icing Time

OREGON—A new, self-propelled icing unit for servicing railroad refrigerator cars is speeding up operations at Southern Pacific Lines' classification yard in Eugene.

The machine is the first equipment of its kind to take ice out to trains in the yard, reports a company spokesman. The usual method is to bring the reefer cars to an ice dock.

Known as a Mobil Icer, the unit was developed and is being used by Pacific Fruit Express Co., which is jointly owned by SP and Union Pacific Railroad Co. The machine operates on standard gauge railroad track. It pulls several 25-foot ice tenders, equipped with chain conveyors

FRUIT PEST HANDBOOK

(SIXTY-SEVENTH OF A SERIES)

RED RASPBERRY SPUR BLIGHT

SPUR blight is considered one of the most destructive fungus diseases of red raspberry in northern and eastern United States, Canada, and Europe.

The disease is first noted on new canes in early summer as dark brown to purple discolored areas around or below the point of leaf attachment (node). These blighted areas spread up and down the cane, sometimes extending from one node or leaf base to another. Leaves arising in the infected area turn yellow and fall off, leaving the stem attached to the new cane.

As the season progresses the infected areas turn gray, and small, black, pimple-like bodies are scattered over the blighted area. This is accompanied by lengthwise splitting of the bark, which is further conducive to winter injury.

The fruiting canes, infected the previous season, present a ragged look, for many buds in the infected areas are either dead or develop small, weak, yellowish lateral shoots that often dry up before the blossom stage.

Spur blight leaf infection is noted as small, brown spots that soon spread out along leaf veins to the margins, presenting a large Y-shaped brown lesion. Often the disease develops down the leaf stem, infecting the cane at the point of attachment.

By early summer the overwintered fungus on the fruiting canes is ready to discharge and infect the new, succulent, developing cane and leaf growth. During rainy periods from May through July the liberated spores land on the new growth and are pocketed by the moisture in leaf axils (nodes) and veins. Germination and infection subsequently occur.

If the early growing period is dry, then spur blight damage will be negligible. On the other hand, excessive moisture will

(Continued on facing page)



Spur blight infection on leaves.



Red raspberry spur blight on new canes.

down the middle, which transport the ice to the breaking chamber. The ice moves up a screw conveyor and is fed into bunkers through the discharge chute. This chute operates to the right or left to load bunkers on either side. The operation takes about two minutes per car.

Canning Companies Merge

MICHIGAN—The merging of two canning plants, Dwan Home Canning Co., Inc., of St. Joseph, and Paw Paw Canning Co., Inc., of Paw Paw, has produced the second largest food processing firm in the state. The Paw Paw company is continuing operation under the same name as a division of the Dwan Corporation. The combined production of the merged plants will be well over a million cases of Michigan-grown fruits and vegetables per year.

VGAA SLATES SOUTH AMERICAN TOUR

As its fourth official international tour, Vegetable Growers Association of America has scheduled a South American tour from February 20 to March 24, 1959. Arrangements should be made now with Walter F. Pretzer, VGAA Tour Director, 1425 Euclid Ave., Cleveland 15, Ohio. Traveling aboard the steamer *Argentina* from New York, the group will visit the islands of Barbados and Trinidad in the Caribbean Sea; Rio de Janeiro and Santos in Brazil; Montevideo, Uruguay; and Buenos Aires, Argentina. Ellen Bromfield Geld, daughter of the late Louis Bromfield, has invited the group to visit Malabar Farm, organized by her father in Brazil.

Chemical Hoe Demonstrated

WASHINGTON—Some 200 persons attending the recent Berry Day at Western Washington Experiment Station, Puyallup, saw a demonstration of a "chemical hoe" invented by Dr. C. D. Schwartz, horticulturist.

The sprayer device, which attaches to the side of a tractor, is designed so that only the weeds and suckers between the berry hills are sprayed by the chemical weed killer. The labor-saving equipment is operated by the tractor driver with a long handle, which is moved in and out between the hills. It is designed so that the canes and posts will push the sprayer away from the main plants. The rubber skirt confines the spray to the area between the hills and does not allow the spray to touch the main berry bushes.

HICKORY NUT CONTEST

A state-wide hickory nut contest is being conducted this fall by Pennsylvania Nut Growers Association in co-operation with the horticulture and agricultural extension departments of Pennsylvania State University. Main purpose of the contest is to locate sources of seed and scion wood from good nut-bearing trees for an improvement program in hickory nut production. Entry blanks may be obtained from George G. Weber, Secretary-Treasurer, Pennsylvania Nut Growers Association, 748 S. Queen St., York, Penn.

Peaches Undergo Vacuum Cleaning

SOUTH CAROLINA—Large quantities of smooth-shaven peaches defuzzed by vacuum cleaning were shipped to midwestern markets this past season. South Carolina Peach Council reported that removal of nature's coat of fuzz was followed by a waxing and hydrocooling treatment. The fruit rolled through a mist of vaporized edible wax, emerging with a satin smooth skin. The process closes the pores of the peaches and protects them against bruising.

Pecan Crop Estimates

GEORGIA—The most recent estimate of the State pecan crop by Georgia Crop Reporting Service is 43 million pounds for 1958. This is in comparison with about 7.5 million pounds produced in 1957, and about

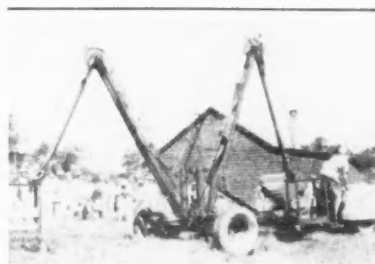
17 million below the record high production of 60 million pounds in 1956.

However, the production estimate for this year is still about 6 million pounds above the 10-year average of 37 million pounds for the state. Frequent rains during June and July helped the orchards in most places, officials said.—*Pauline T. Stephens.*

C-A Storage on Increase

MASSACHUSETTS—Controlled atmosphere storage is on the increase in New England, according to announcements made at the joint summer meeting of Massachusetts Fruit Growers Association and New Hampshire Horticultural Society. Massachusetts growers reported that they are more than doubling the capacity of C-A storages in their state, and New Hampshire growers are adding another 40,000 to 50,000 boxes, making a total of 120,000 boxes of C-A storage capacity for the state.

The two-day meeting in Massachusetts featured Carroll Miller, of Appalachian Apple Service, Inc., as guest speaker. He stressed the importance of modern merchandizing methods as a way to increase apple sales. Through co-operative organization or sales agencies, apple growers will have to adopt some of the marketing methods used by food manufacturers in order



LIFTS A MAN IN SECONDS

New England fruit growers watched Bill Doe demonstrate picking and pruning lift at recent tour in Massachusetts. Two cages are attached to ends of two flexible arms which are mounted on trailer and operated hydraulically. Levers on cage enable worker to move up or down, in or out, to either side. Three men can pick as much with this device as seven men with ladders. Cages hold 350 pounds, or one man and 4 boxes of apples.

to hold their market, he said. These methods include delivering a good, uniform product to the retail stores; providing publicity material the retailers can use; arranging displays; and removing overripe or undesirable products when necessary.—*E. J. Rasmussen, Ext. Hort., U. of New Hampshire, Durham.*

Dr. Quaintance Dies

MARYLAND—Dr. Altus Lacy Quaintance, former head of U. S. Bureau of Entomology, died recently at the age of 82. A former fruit grower, Dr. Quaintance pioneered research in the control of codling moth. He was at one time with Maryland State Agricultural College.—*A. F. Fierheller, Sec'y, Maryland State Horticultural Society.*

Apple Officers Re-elected

WEST VIRGINIA—Fred C. Matson, Martinsburg, was re-elected president of Appalachian Apple Service, Inc., at the recent annual meeting of the board of directors. Other officers re-elected for the 1958-59 year include John P. Caspar, Hancock, Md., vice-president; Malcolm M. Brown, Martinsburg, who will serve his 23rd consecutive year as treasurer; and Carroll R. Miller, Martinsburg, secretary-treasurer.

CALENDAR OF COMING MEETINGS & EXHIBITS

Oct. 9-18—National Apple Week Association, Inc., fall national apple promotion.—National Apple Week Ass'n., Inc., 1302 18th St., N. W., Washington 6, D. C.

Oct. 12—Ohio Nut Growers' Association outing, Daves Arboretum, Newark.—E. M. Shelton, Sec'y-Treas., 1468 W. Clifton Blvd., Lakewood 7.

Oct. 13-15—Produce Packaging Association annual meeting, Park Sheraton Hotel, New York, N. Y.—R. L. Carey, Exec.-Sec'y, South College Ave., R. D. 2, Newark, Del.

Oct. 22-24—Second Annual Conference on Agricultural Meteorology, Connecticut Agricultural Experiment Station, New Haven.—Dr. Norman F. Childers, Dept. of Hort., Rutgers University, New Brunswick, N.J.

Oct. 28-30—Florida State Horticultural Society annual meeting, Fort Harrison Hotel, Clearwater.—Dr. E. L. Spencer, Sec'y, Box 678, Manatee Station, Bradenton.

Nov. 5-6—Minnesota-Wisconsin fruit growers annual meeting, Park Sheraton Hotel, Minneapolis 14, Minn.—J. D. Winter, Sec'y, 719 S. E. 5th St., Minneapolis 14, Minn.

Nov. 5-6—Western Growers Association, Biltmore Hotel, Los Angeles, Calif.—Frank W. Castiglione, Sec'y, 3091 Wilshire Blvd., Los Angeles 5.

Nov. 12—Washington State Council of Farmer Cooperatives, Benjamin Franklin Hotel, Seattle.

Nov. 12-13—Wisconsin State Horticultural Society annual meeting, Retlaw Hotel, Fond du Lac.

Nov. 18-20—Washington State Weed Conference, Moses Lake.

Nov. 20-21—Oregon State Horticultural Society 73rd annual meeting, Oregon State College, Corvallis.—C. O. Rawlings, Sec'y, Corvallis.

Dec. 1-2—Washington Crop Improvement Association annual meeting, Pullman.

Dec. 3-4—North Central Weed Control Conference, Nederland Hilton Hotel, Cincinnati, Ohio.—C. J. Willard, Co-chairman, Local Arrangements Committee, NCWCC, H & F Bldg., Ohio State University, Columbus 10.

Dec. 4-5—Western Washington Research Extension Conference on Horticulture, Western Washington Experiment Station, Puyallup.

Dec. 8-9—Kentucky State Horticultural Society annual meeting, Brown Hotel, Louisville.—W. W. Magill, Sec'y, Lexington.

Dec. 8-10—Washington State Horticultural Association annual meeting, Yakima.—John C. Snyce, Sec'y, Pullman.

Dec. 8-11—Vegetable Growers Association of America Golden Anniversary Celebration, Cleveland, Ohio.—Joe Sholly, Sec'y, 528 Mills Bldg., 17th St. and Pennsylvania Ave., N.W., Washington 6, D.C.

Dec. 9-10—Oklahoma Pecan Growers Association annual meet and nut show, Bristow.—E. L. Whitehead, Sec'y-Treas., Stillwater.

Dec. 11-13—Tennessee State Horticultural Society 53rd annual meeting, New Southern Hotel, Jackson.—A. N. Pratt, Sec'y, 410 State Office Bldg., Nashville 3.

Jan. 3-7, 1959—Missouri State Horticultural Society centennial meeting, Columbia.—W. R. Martin, Jr., Sec'y.

Jan. 6-7—North Carolina State Apple Growers Association annual convention, Battery Park Hotel, Asheville.—R. B. Phillips, Sec'y, Bakersville.

Jan. 15-16—New Mexico A&M College annual Fruit and Vegetable Short Course, State College.—W. J. Wilbanks, Ext. Hort., State College.

SPUR BLIGHT

(Continued from page 121)

result in severe blight damage to the new canes, with resulting yield reduction the next season.

Control. Generally speaking, all red raspberry varieties are susceptible to spur blight in varying degrees.

The cultural program should include a planting site with good air drainage to quickly dry rain and dew from plant parts, coupled with weed control to further aid in this drying and to facilitate better spray coverage.

When a new red raspberry planting is set out, the fungus may be present on the "handle" or year-old cane. This is considered the main source of spur blight infection in a new planting. After planting, when the new canes appear near the crown of the newly-set plant, the old cane or "handle" should be cut off and destroyed.

Control of spur blight in established plantings has been effected by spraying. Generally, two protective applications of a 4-4-100 Bordeaux mixture when the new canes are 6 to 10 inches high and about 10 to 14 days later are effective. These applications should be timed before predicted rains, if possible, and thoroughly applied.—*Robert H. Fulton, Michigan State University.*



State REPORTS

WESTERN EDITION

California Growers Boost Net Profits

TEN California ranchers who grow apples have discovered a way to increase their net profit. Their system is becoming more successful every year and it is one other growers throughout the country can use.

Located at Oak Glen, 85 miles from Los Angeles, these ranchers have increased their net profits by marketing most of their crop at roadside salesrooms. They retail 180,000 bushels of apples a year from their orchards, which total 750 acres. In addition, about 70,000 bushels are shipped wholesale each year.

"By next season I'll sell all of mine retail," states "Blackie" Wilshire. "My net profit is considerably higher. Here's the way it figures:

"When we wholesale the apples to Los Angeles, we have to pay shipping charges. After the apples are delivered, a commission of 15% goes to the fruit-vegetable broker, plus other small expenses.

"Compare this with the expense of retailing here, which is mainly a labor charge. Most of this cost is for the sales help we need, especially on a Saturday and Sunday. It comes to 7% of the retail price. And because we can, and do, sell all we want to at retail—well, you can readily see the net profit is higher."

Even though located many miles from an important highway, Oak Glen is crowded during the harvest season with visitors from Los Angeles and vicinity who are buying apples by the box. In recent years, 70,000 cars have stopped annually at the roadside salesrooms. On one Sunday, county officials counted 8022 cars which had passed a given spot.

How do these growers attract so many customers, who may drive from as far away as Los Angeles?

The 10 men have formed the Oak Glen Apple Growers Association, headed by William F. Parker, president. Members tax themselves a small fee for each box sold. Most of the money is used to pay a professional publicity agent. He gets newspapers to print pictures and run articles about the fun of driving to Oak Glen and buying crisp fresh apples there.

Often the same apple can be bought in the city for less than at the grove. People don't mind, for they are at Oak Glen for an outing in the apple country.

Advertising by the association mentions the many picnic areas around Oak Glen. People are encouraged to bring their lunches and really "make a day of it in the apple groves." And people do. Friends are brought,



Numerous roadside signs at Oak Glen never mention price. To do so, would encourage price cutting, growers feel. Fresh cider sign above appeals to thirsty motorists; fruit is displayed beneath.

and they, in turn, bring others. So year after year finds more and more people buying apples at Oak Glen.

Among attractions provided by the growers for visitors is atmosphere. Packing houses are arranged so that people can watch the sorting and polishing.

City dwellers are fascinated when they watch one of the cider mills in operation. These same people then move over to the retail counter and buy cider by the glass for 10 cents. It retails for \$1.00 a gallon. Nearly all the growers sell cider, but only three have their own mills.

Most of the ranches have a guest book, and customers are encouraged

WHAT YOU CAN DO

What these Oak Glen apple growers are doing so successfully, in retailing their crop, can be done elsewhere. Here are some pointers:

Make the prospective customer want to visit your region. And when he gets there, make him glad he made the trip. Offer good merchandise at reasonable prices—and offer him something else, offer him atmosphere.

Make the area look attractive. Use neat signs. Furnish large parking areas. Have drinking fountains handy. Furnish a picnic area or two. Distribute cooking recipes. Have clean restrooms. Make the customer not only feel wanted, make him want to return next season.

to sign their names. This is used the next fall for the mailing list.

The largest ranch, Los Rios, distributes government postal cards which visitors address to themselves. On the reverse side a check mark can be made, showing the varieties of apples the person wants to know about—the time they'll be ripe and offered for sale.

Just before the season starts, Los Rios mails these self-addressed cards. Those receiving them are surprised to see their own handwriting, and so read the card. This is superior advertising!

These growers have proven co-operation pays big profits. And they have shown that the buying public will drive for the fruit—providing the fruit is superior and is offered for sale in an attractive manner.—*Alan W. Farrant.*

Speeded-Up Germination

TREATMENT of fresh peach seeds with various rates of gibberellic acid will produce seedlings in about 15 days.

That's the report from M. B. Jones, horticulturist, New Mexico A & M College Agricultural Experiment Station, State College. He points out that fresh peach seeds normally lie dormant for 60 to 90 days before sprouting. If the seeds dry out during this time, they won't sprout at all, he explains.

This speeded-up germination means that peach breeders can save a year in their breeding work, he says. However, he cautions that although gibberellic acid may have a place in commercial agriculture, more research must be conducted before recommendations can be made.

AMERICAN FRUIT GROWER

Grapes

The Enterprising Pugsleys

THE enterprising Pugsleys of Paw Paw, Mich., have eliminated one farm operation in developing their vineyard soil management program.

Fred Pugsley and his father, Cliff, are partners in a 320-acre farm business that includes 90 acres of grapes and 60 acres of tree fruits, including apples, peaches, cherries, and pears.

Until last year Fred and Cliff used part of the farm for raising hay which was fed to the cattle and then went as manure to the vineyards and orchards. Fred decided to eliminate the double job of hauling hay to the cattle and then hauling manure to the grapes. He got rid of the cattle and now hauls the hay to the vineyards as a mulch.

He further figured that the direct movement of the hay to the vineyard would also pay off in better soil management through increased organic matter, better nutrient availability, and increased water-holding capacity. In addition, the hay itself would furnish a high percentage, if not all, of the essential mineral nutrients needed by the vines, thus greatly reducing the need for commercial fertilizer.

Last summer, the Pugsleys applied two cuttings from 35 acres of good quality alfalfa brome hay to 20 acres of grapes. Fred estimated that the equivalent of 100 tons of dry hay was applied to the 20 acres.

The entire operation was mechanized to a fine point by making full use of equipment already used in the vineyard. The hay was cut with an ordinary tractor-drawn orchard brush chopper which is used for cutting prunings in the vineyards and orchards. To the chopper was added a cyclone head attachment for blowing the chopped hay into a wagon.

Two wagons, normally used for hauling grapes, were covered on both sides, top and back, with a frame and screen wire to keep the hay from blowing out. During the cutting operation a wagon was hooked at the back of the cutter so that the hay could be blown in through the partly open front. Both wagons were in constant use, one being filled in the hay field while the other was being emptied in the vineyard.

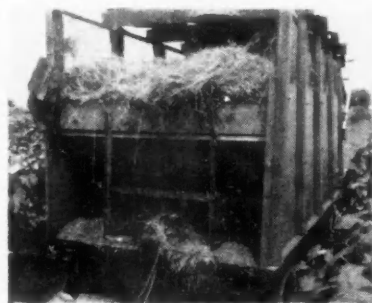
Each wagon was further fitted with a false front gate, which was attached to a hydraulic cylinder operated from the tractor power system. Upon entering the vineyard, a gate at the back end of the wagon was opened. As the tractor moved up a

row, the hydraulic system pushed the false front toward the rear of the wagon, thus pushing all of the hay out. The only hand work needed was to scatter the hay, with a pitchfork, over the entire surface between the rows.

By this spring, Fred and Cliff noted that most of the hay was rotted down and the soil could be disked without trouble. During January through April of this year, the grape area of southwestern Michigan had only 5 inches of precipitation, which was just 50% of normal. In spite of this, when Cliff was disking during May, he found that the soil in the mulched vineyard was pliable and moist, whereas in an adjoining vineyard the soil was dry and very dusty. This alone was enough to convince him that the hay cutting and mulching operation should be continued in 1958 at the Pugsley Farms.—Paul Larsen, Michigan State University.



Hay cutting operation on Pugsley Farm. Rotary mower cuts and blows hay into a covered wagon.



False front gate powered by hydraulic cylinder pushes hay to rear of wagon during unloading.



Hay spread by hand: the entire surface is covered between rows to a depth of 2 to 3 inches.

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At the top is the big, new "High Volume" model 58120-232ET5 dilute or semi-concentrate Air Sprayer. Two 32" fans deliver air at the rate of 80,000 CFM at 90 MPH velocity. And, air is delivered directly off the fan blades into tree foliage, rather than indirectly off vanes or deflectors. Thus there is no decrease in air velocity or subsequent penetration.

Also new to the line is the new "Multi-Purpose" model 5820-224ET4 Air Sprayer for dilute, semi or concentrate spraying. This unit has two 24" fans

which deliver 35,000 CFM air volume, 80-90 MPH velocity.

You will find that Myers Sprayer pumps have the performance and physical characteristics necessary to handle all types of solutions. Epoxy coated tanks are famous for their stubborn resistance to field impact damage and highly corrosive spray chemicals. Unmatched versatility of spray pattern and high penetration make Myers Air Sprayers ideal for dispensing the new Systematic-organic insecticides that are fast gaining in popularity.

SEE THESE ADVANCED SPRAYERS FOR YOURSELF! Your nearest Myers representative will be happy to arrange a free demonstration in your own grove or orchard. It will *pay you* to call him today.



226 Series

MODEL 55C20-4ETR3—Semi and concentrate Air Sprayer available with 300, 400 or 500 gallon tank. 120 HP engine; three cylinder high pressure pump. Two 26" centrifugal fans deliver 45,000 CFM air volume at 90 MPH velocity.



226 Series

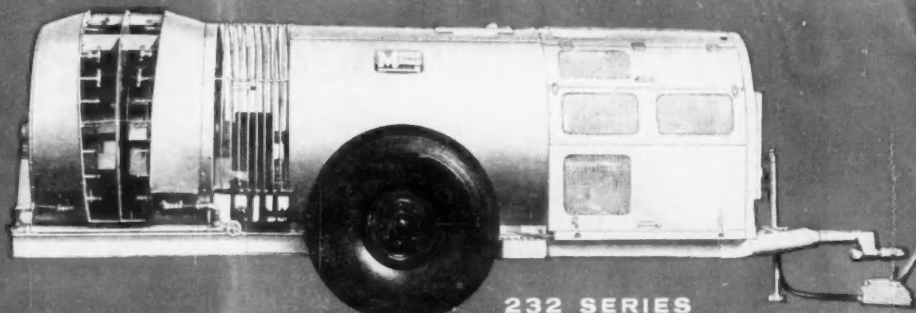
MODEL 55C120-AETR4—Dilute and semi-concentrate Air Sprayer available with 400 or 500 gallon tank. 120 HP engine; high capacity pump. Two 26" centrifugal fans and tapered air outlets provide 45,000 CFM air volume at 90 MPH velocity. Three-way air control.



A36 Series

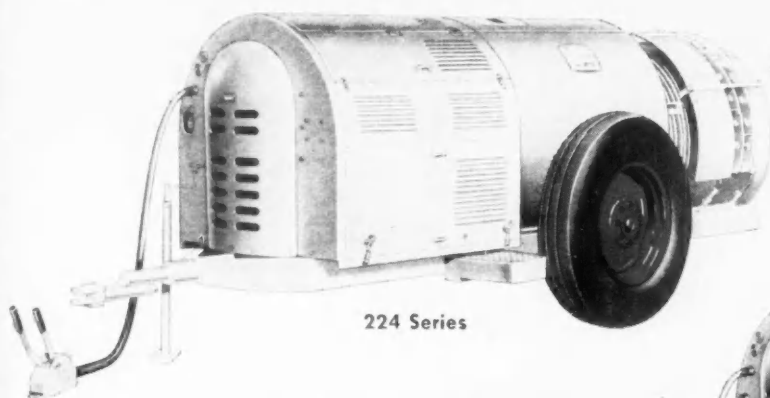
MODEL 56CA-O36—This advanced blower attachment can be adapted to any dilute spraying rig. 36", seven blade axial flow fan is of high-strength, cast aluminum. Delivers 30,000 CFM air volume at 90 MPH velocity. Blower may be nozzled to handle dilute, semi and concentrate sprays. Sliding, adjustable air outlet covers permit any desired spray pattern.

MYERS...



232 SERIES

NEW MODEL 58120-232ET5—"High Volume" dilute and semi-concentrate Air Sprayer. High capacity 32" fans and tapered air outlet provide air volume of 80,000 CFM at 90 MPH velocity directly into foliage. Designed for two-way spraying. Controls within easy reach of operator. 500 gallon tank with Epoxy coated interior.



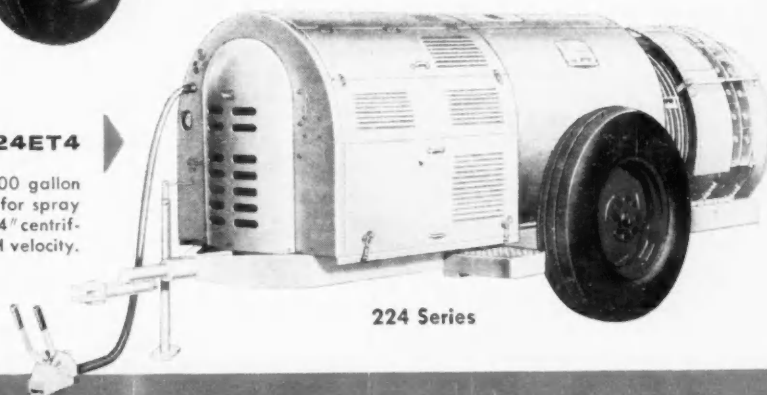
224 Series

NEW MODEL 58120-224ET4

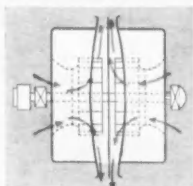
"Multi-Purpose" Air Sprayer for dilute, and semi-concentrate spraying. Myers 120 GPM (90 P.S.I.) centrifugal pump provides ideal spray discharge atomization. Two 24" centrifugal fans deliver 35,000 CFM air volume at 90 MPH velocity. 400 gallon tank.

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"Multi-Purpose" Air Sprayer available with 300 or 400 gallon tank. 3 cylinder pump provides 20 GPM (400 P.S.I.) for spray atomization. Remote tractor-mounted controls. Two 24" centrifugal fans deliver 35,000 CFM air volume at 80-90 MPH velocity. For dilute, semi and concentrate spraying.



224 Series



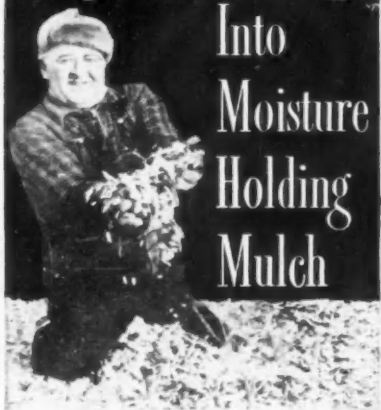
Myers "squirrel cage" fans deliver air stream directly through trees. Air stream is redirected BEFORE IT REACHES MAXIMUM VELOCITY. Air is not blown into a corner where it can't get out.

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A mulch of wood chips keeps weeds down . . . discourages rodents . . . gives orchards better tilth . . . a moisture-holding capacity to bring trees through dry spells.

Fruit trees yield more fruit, larger fruit, fruit that ripens earlier when local fertilizer requirements are supplemented with five to seven inches of wood chips around the trees. "Drops" are cushioned, bruise less, and are easier to find.

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An orchard model Chipper costs as little as \$650. This is soon returned by your increased fruit production, the lowered farm labor costs. Find out how a Fitchburg Chipper will fit your orchard. WRITE FOR FREE CHIPPER FACTS TODAY.

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Berries

He Cages His Blueberries

The author, John W. Reid, of North Plainfield, N. J., a 78-year-old retired engineer, is an enthusiastic backyard gardener whose small blueberry planting is a "laboratory" and shows how productive the bushes can be when "perfectionist" cultural practices are followed.—Ed.

A WIRE cage encloses my blueberry planting of 60 bushes and protects the 3000-square-foot area from a heavy bird population.

The structure consists of 10-foot cedar posts set 3 feet into the ground. The tops of the posts are connected by 2 x 6- and 2 x 4-inch planks. The frame is covered with turkey wire with mesh openings about $\frac{7}{8}$ x $1\frac{1}{2}$ inches.

The planting site originally had a heavy clay soil. It was made fertile by applying $\frac{1}{3}$ native top soil, $\frac{1}{3}$ washed coarse building sand, and $\frac{1}{3}$ oak sawdust with a generous addition of peat moss, thoroughly shovel-mixed.

The original planting, which was started in November, 1947, consisted of 40 plants. Since then, 20 more plants have been added, and newer varieties have replaced the old planting. Earliblue, Bluejay, Bluecrop, Berkeley, Herbert, and Coville make up the 60 bushes.

Each year nearly an inch of sawdust mulch is applied. Mulch depth in the center of the row on the old planting is now $7\frac{1}{2}$ inches, and on the newer planting, $4\frac{1}{2}$ inches. Fine blueberry roots branch out through the mulch and are within an inch or two of the surface.

Blueberries need plenty of water. I have my own well and, by using a revolving sprinkler over the top of the cage, 4 inches of water can be applied in 12 hours. If it is inad-

visable to use foliar irrigation, two lines of rubber soaker-type hose can be used, locating a line on each side of the row. Rate of application would be only about half of the overhead type.

Generally, the fertilizer used is an 8-8-8 with all the potash being sulfate with a magnesium content. Applications are made the last week in March, April, and May. Three-year-old plants and older receive from $1\frac{1}{2}$ to $2\frac{1}{2}$ pounds per plant. Young plants



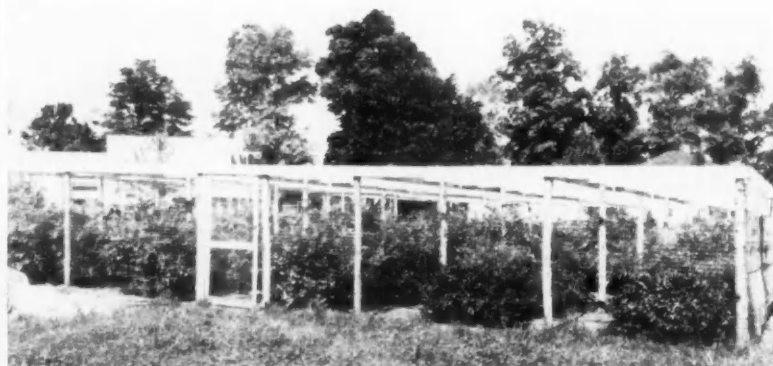
John W. Reid inspecting blueberry bush. His 60 plants produced 282 quarts in 1957 season.

are given an application of 15-30-15 liquid plant starter. The sawdust mulch serves as a good buffer where heavy fertilization is used.

Plants are arranged in five rows, with 12 plants in each row. The rows are on 9-foot centers; in the old planting, centers are 5 feet, and in the later section, 6 feet.

The pH of my planting is 4.7. Each season an application of 2 ounces of agricultural sulfur is made to each plant, which seems to maintain the pH at a favorable level.

The 60-day harvest in 1957 began



Cage encloses 3000-square-foot blueberry planting and protects the area from bird population.

on June 24 and ended on August 23, when 1½ quarts of Coville and 2½ quarts of Herbert were picked. Production totaled 282 quarts.

The order of ripening was Earliblue, Blue-ray, Bluecrop, Berkeley, Herbert, and Coville. Herbert has kept pace with Coville in late development.

Five four-year-old Earliblues averaged 8 quarts to the bush, but their production was cut at least 2 quarts each when an adjacent alfalfa patch was sprayed with chloro HPC and the spray drifted to one side of the bushes.

The primary pruning was well done, but the flower pruning of fruit spurs left something to be desired. Bluecrop did not size up; if the number of fruit spurs had been thinned to half, the sizing and production might have been improved.

Toward the end of May fruit spurs on the one- and two-year-old Blue-rays were reduced 50% because they did not seem to have sufficient leafage.

The three-year-old Blue-rays had relatively low production, but they are now beginning to develop after having been held down by the overtopping Dixie varieties, which have been removed.

The Berkeleys did quite well but I kept them picked closely so that drop was no problem. It is a mild-flavored berry and some picking on the green side should be acceptable.

Herbert tops the list in production, size, and flavor. Five four-year-old plants averaged 16 quarts each, and three two-year-olds were outstanding with an average of 4 quarts each.

Coville, Earliblue, and Berkeley are next on my preferred list. Blue-ray

'CERTIFIED ROADSIDE MARKETS'

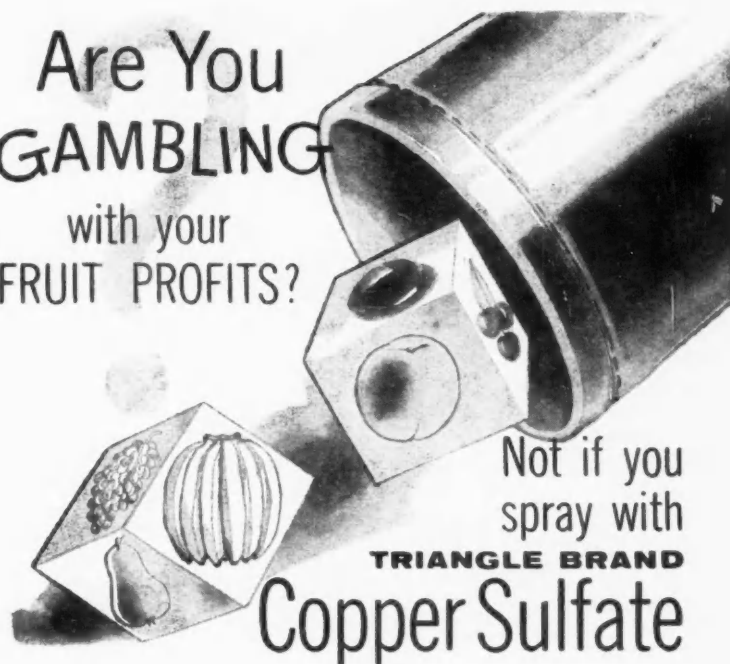
Promoting a good reputation for an \$11 million business of more than 2000 roadside markets on some of the busiest highways in the world is the aim of "Jersey Certified Farm Markets, Inc." John L. Hendrickson, Jr., Middletown fruit and vegetable grower, is president of the non-profit group. Secretary is William Perry Watson of the New Jersey Farm Bureau, which is sponsoring the organization. Big green and yellow signs on stands denote membership. Signs are taken down if standards of fair pack and quality produce properly priced are violated.

and Bluecrop still have to prove themselves in my planting. Seedling F-72 developed a few blossoms but didn't show anything in the way of size.

The one- and two-year-old plants are the finest of their age of any grown to date. I am more than pleased about the switch to the existing varieties and the quality of the berries. Pemberton and Dixie, the old varieties, were terrific producers and responsive to irrigation, but after the peak of production was over, size and quality diminished; in wet weather, they split and dropped. THE END.

OCTOBER, 1958

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Apples

\$250,000 in C-A

EIGHT Champlain Valley apple growers* who have just built a \$250,000 controlled atmosphere storage plant near Peru, N. Y., have a silent partner named Morpheus solving their storage problems.

By putting their apples to sleep in C-A rooms, these growers are able to sort and pack their fruit carefully and economically after the harvest rush. They are saving money on transportation and are able to sell their fruit when the market is most attractive. Best of all, they have



Apples stored for about eight weeks are being removed from these vapor-proof storage rooms.

sound, highly-colored apples which look and taste fresh-picked as long as nine months after the fruit goes into storage.

C-A storage is largely the development of Dr. R. M. Smock and his associates and former students at New York State College of Agriculture. It is what its name implies—a strict controlling of storage atmosphere.

Temperature must not waver much from 38° F. or the apples may brown at the core. Relative humidity must be kept at or above 95% to prevent loss of juiciness in the apples. Therefore, ceiling, wall, and floor insulation for storage areas must have a low heat transfer.

Most low temperature insulations lose part of their insulating value through moisture absorption. Styrofoam (Dow Chemical Co.), the insulation used in this storage, excels in both respects. It does not absorb appreciable moisture, hence maintains its original insulating efficiency. It can be installed rapidly and can be faced with sheet metal—an important consideration because C-A rooms

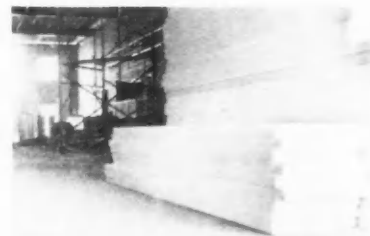
must be absolutely airtight. They are sealed as soon as they are filled and not opened until their contents are ready to go to market. Once or twice a day the atmosphere within is analyzed and adjusted to 3% oxygen and 5% carbon dioxide. An activated carbon ("Pur Air") filter removes undesirable gaseous products of metabolism.

The new C-A storage plant at Peru is owned by a stock co-operative, Peru Co-operative Apple Storage, Inc. Its location, in the heart of the apple country, means that fruit can go into storage an hour or two after picking. There is C-A storage for 80,000 bushels of apples and regular cold storage for 40,000 bushels.

The C-A rooms are insulated with Styrofoam on walls, ceiling, and floor. On the ceilings there are 6 inches of insulation (two 3-inch layers); on the walls, 4 inches (two 2-inch layers); and on the floors, 4 inches (two 2-inch layers).

The C-A storage at Peru is undoubtedly but one of many to come. Chazy Orchards, at Chazy, N. Y., are constructing extensive C-A storages as an addition to their present cold storage facilities. The structure and insulation are much the same as at the Peru Co-operative.

Growers of other fruits are asking questions. It is conceivable that many fruits will respond to this type of storage. The storages may seem costly to build, but they must pay for themselves in terms of savings on



Styrofoam stacked up at Peru co-operative storage; 16-inch boards can be cut with hand saw.

spoilage and lowered costs of packing and trucking.

Dr. A. B. Burrell, well-known member of the Peru co-op, says that the \$250,000 storage at Peru is already saving its owners at least 15 cents a bushel in trucking costs alone. They used to pay 25 cents to truck their apples to Hudson Valley storages 225 miles away. Later they had to pay 15 to 20 cents more to send stored apples to New York City markets. Now the co-op members send their apples from Peru to New York direct for 25 cents a bushel.

Further economy is effected by sending the apples into storage orchard run. Packing and orchard supplies can be purchased in carlot

*Sullivan Orchards, S. B. Clark, Everett Orchards, Clark and Thew, Burrell Orchards, Northern Orchard Company, William Duffield, Kermit Irwin, Robert L. Collins, manager.

quantities. But the big thing, Dr. Burrell says, is the quality of the stored apples which go to market as bright and beautiful as the day they were picked.—*Prescott C. Fuller.*

Pears

Dwarf Advantages

DWARF pear trees offer a number of advantages for commercial growers, says Karl D. Brase, pomologist, New York State Agricultural Experiment Station, Geneva.

Dwarf Bartlett trees come into fruit two or three years after planting, he points out. Individual fruits of pears grown on quince rootstocks are of high quality and larger than those from standard trees. The trees need little pruning, only enough to shape the tree, Brase explains.

The trees remain small and should be planted close together for maximum yields per acre, he says. Bartlett, for example, can be planted 6 to 8 feet apart in the row, with rows 18 to 20 feet apart.

Nurserymen often use Angers quince as a rootstock for dwarfing pears, Brase comments. Clonal selections of Angers as well as of the common quince have come into recent use.

Some pear varieties are incompatible when budded on quince. This problem can be avoided by using a compatible variety, such as Old Home, as an interstock, says Brase. Old Home is also resistant to fire blight. Even if a branch of a susceptible variety is killed by blight back to the graft union, it can be removed and the remaining healthy Old Home frame regrafted, he concluded.

Nuts

NNGA Meets at Beltsville

HARDY nut varieties are now available for most sections of the country—even in colder regions where it was formerly thought that nut trees could not survive.

This significant fact was disclosed during the recent 49th annual meeting of Northern Nut Growers Association at the USDA Plant Industry Station in Beltsville, Md.

About 150 members attended the convention. The three-day meeting was highlighted by field trips to view nut-tree experiments on the Beltsville grounds. Several demonstrations on disease and insect control were conducted.

It was largely through the efforts

of NNGA members that hardy English walnut varieties can now be grown in colder regions. These strains were introduced from the Carpathian Mountains of Poland some 20 years ago. The kernels are of the highest quality.

Another nut which is fast gaining commercial status is the Chinese chestnut. This chestnut equals, and usually surpasses, the old native American chestnut in quality.

Chinese chestnuts can be grown throughout the peach region. There are large orchards in Maryland, Pennsylvania, and Georgia now coming into bearing. Producers have

found a ready market for these chestnuts, although they must compete with the European chestnuts. As more plantings come into bearing, Chinese chestnuts will be seen on the markets during the fall and winter months.

NNGA has over 1000 members representing all but three states. The group welcomes anyone who is even mildly interested in nut trees. Carl F. Prell, South Bend, Ind., is president; J. C. McDaniel, Urbana, Ill., vice-president; William S. Clarke, Jr., State College, Penn., treasurer, and Spencer B. Chase, Knoxville, Tenn., secretary.—*Spencer B. Chase.*

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APRICOTS

Good for Eating-Canning

USDA-STATE researchers have developed for the Pacific Northwest two new apricot varieties good for eating and processing.

Neither Wenatchee nor Tilton, leading varieties there, meets both needs.

The new apricots, Blenril and Earl-iril, are strong, vigorous and bear even-ripening, medium-sized, high quality freestone fruit, with the firmness and fine texture common to later-maturing varieties. Both appear to be free of latent ring-pox virus.

CHERRIES

Nutritional Needs

TWO of the principal horticultural studies with Montmorency cherries at the Wisconsin fruit research center have been the nutritional and moisture requirements of this fruit.

The importance of nutritional studies is emphasized by the following:

- 1) The soil is very shallow—1 to 2 feet to a niagra limestone bedrock.
- 2) The pH of the soil is 7.5 to 8+.
- 3) The majority of the orchards were using only nitrogen as a supplemental fertilizer prior to 1950.

In 1950 it was quite evident that many orchards were suffering from

A fruit research center was established by University of Wisconsin at Peninsular Branch Experiment Station (Door County) in 1946. The research being conducted at this station includes disease and insect control studies, and the horticultural aspects of cherry, apple, and strawberry production.—Ed.

rather extreme potash deficiency. An experiment was, therefore, initiated in 1951 in a two-year block of potash-starved Montmorency trees at the Spencer Eames orchards in Egg Harbor. The characteristic symptoms on these trees were necrosis of the leaf margins, upward rolling of the leaves, and lack of terminal growth.

There are 10 fertilizer treatments in the experiment with combinations of N-P-K and with major emphasis on potash. Wherever potash was included in the fertilizer there was a very definite response the following year. A summary of the data obtained to date are included in Table I.

All trees have received $\frac{1}{2}$ pound of ammonium nitrate annually. The

trees in the N-K plots have had an annual application of 3 pounds of 0-0-60, and the N-P-K trees 5 pounds of an 0-10-30 fertilizer in addition to the N.

TABLE I—EAMES ORCHARD

Treatment	Avg. Terminal Growth Per Yr. (7 yrs.) Inches	Yield Per Tree 1954-1957 Pounds
N only	3.5	2.5
N-K	10.7	58.3
N-P-K	11.5	62.3

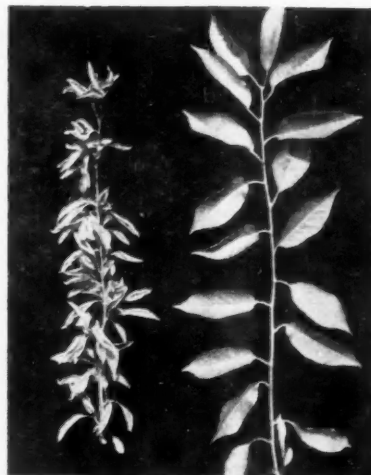
In addition to the experimental block, pilot studies have been conducted in several other orchards with trees of various ages. Yield figures in Table II from the H. Schuyler orchard at Fish Creek show the response on old trees which were exhibiting symptoms of potash deficiency in 1950.

TABLE II—H. SCHUYLER ORCHARD

Treatment	1951	1952	1953	1954
N only	52	30	48	43
N-K	124	82	134	80
N-P-K	100	74	136	78

Nitrogen application per tree was 4 pounds of ammonium nitrate; potash in the N-K plots averaged 5 pounds of 0-0-60 per tree; and an 0-10-30 fertilizer was used in the N-P-K plots at an 8- to 10-pound rate.

Another factor which is important in an area with a shallow soil is competition for the available moisture. Since many cherry orchards in the area were being grown under a sod culture system, an experiment was initiated at the experiment station in 1952 to make a thorough



Normal cherry terminal (right) in contrast with one showing extreme potash deficiency (left).

study of this problem. A 3-acre block of Montmorency trees was planted in 1951 and a sod containing primarily bluegrass was seeded in 1952. The data from three of the treatments are summarized in Table III.

TABLE III—MOISTURE STUDY BLOCK

Treatment	Per Year Avg. Term. Growth (1953-57) (inches)	Per Tree Yields (1954-56) (pounds)	Per Tree Spurs (1956)	Term. Growth (1955) (feet)
Clean cultivation (winter wheat cover crop)	14.6	28.3	1215	348.8
Bluegrass sod	7.8	10.9	408	62.5
Bluegrass sod (straw mulch)	12.4	33.1	904	265.8

All of the data accumulated to date indicate that sod offers too much competition for the available moisture supply under Door County conditions. However, sod plus a heavy mulch has given satisfactory results.—F. A. Gilbert, Supt., Peninsular Branch Sta., Sturgeon Bay, Wis.

PEACHES

Remedy for Chlorosis

MOST peach growers know that trees with pale green or yellowish chlorotic leaves do not produce good quality fruit.

One of the principal causes of chlorosis is a lack of available iron in the soil, and plants differ in sensitivity to a deficiency of iron. Iron is essential to plants in the production of chlorophyll, the substance which makes plant parts green.

Analyses of orchard soils often show that a seemingly ample supply of iron is present, but iron may form insoluble compounds in soils that contain considerable lime or bicarbonate salts and are excessively alkaline. Such insoluble compounds are not easily available to the plant. Thus, an application of soluble inorganic iron compounds on these soils permits the plants to absorb only a small amount of iron before it becomes unavailable to the plant.

More than 20 years ago some of the peach growers in the Grand Junction, Colo., area were testing applications of different soluble iron salts both as soil additives and sprays, but the results were not uniformly satisfactory.

Other growers were advocating an orchard management practice in which a good cover crop was grown and disked under. This practice helped to reduce the prevalence of chlorosis for some growers, but it did not seem to be the complete solution of the problem.

As time passed, some growers used iron sulfate in capsules inserted in

holes bored into the trees. The holes were closed with tree seal or other similar compound. This treatment met with some success and is still used by some orchardists.

In recent years, new soluble iron chelate compounds have been formulated. In the spring of 1956, Sequestrene Iron Chelates, manufactured by Geigy Agricultural Chemicals, Division of Geigy Chemical Corp., was tested by a plant pathologist at Colorado State University on peach trees in orchards near Palisade. These results were encouraging enough to repeat the tests on a larger scale in 1957 and to include a second product, Versenol, manufactured by Dow Chemical Company.

The 1957 test applications were made on June 9 in two orchards which had Genola clay loam soils. Trees to be treated, as well as those left as nontreated controls, were selected on the basis of evident chlorosis as shown in the foliage at that date.



Closeup of chlorotic leaves on peach.

Rates of application used were 1, 2, and 3 pounds per tree applied in four small pot holes dug about 5 feet from each tree trunk in the two small irrigation ditches on both sides of the tree. The shovel of soil removed for to prevent washing of the compound the chelate application was replaced during irrigation. Color photographic records were taken of each tree on June 9 when the iron chelates were applied and again on August 15, a short time before harvest.

The results were variable for each rate of application, but the overall effect was good. This year's results indicated that 1 pound of either product effected the production of darker green foliage than was present on control plants, but when 2 pounds were applied, the new growth and green color were noticeably improved over those trees where 1 pound was used. Very little overall benefit could be seen in trees receiving 3-pound applications when compared with those receiving 2 pounds.

On the basis of this experiment the following recommendations are made: 1) If possible, mark chlorotic trees

after harvest and apply 1 or 2 pounds (depending on severity and size of tree) of either Versenol or Sequestrene Iron Chelates early the next spring. 2) Apply the materials before the first irrigation using the described pothole method of application. 3) Apply the material in holes made 6 feet from the tree trunk.—*Iustin O. Simonds, Colorado State University, Fort Collins.*

Good Crop Year

THE 1958 freestone peach crop was estimated at a little less than 50 million bushels, 25% above last year and 22% above the 1947-56 average.

That's the report from Dana G. Dalrymple, extension economist in

ESTIMATED 1958 FREESTONE PEACH CROP			
	Indicated 1958*	1957	Change from 1947-56
New England	313	+ 596%	+ 28%
Connecticut	160	+ 357	+ 12
Massachusetts	120	+ 1400	+ 51
Rhode Island	18	+ 1700	+ 20
New Hampshire	15	+ 1400	+ 50
New York	1360	+ 807	+ 9
New Jersey	2700	+ 35	+ 59
Pennsylvania	3100	+ 35	+ 26
Michigan	2900	— 2	— 4
Ohio	1100	+ 22	+ 15
South Carolina	4900	+ 11	+ 62
Georgia	3500	+ 67	+ 45
California	12084	— 5	+ 11
United States	49887	+ 25%	+ 22%
+ Cal. Cling	74889	+ 20	+ 19

* In thousands of bushels.

fruit and vegetable marketing, University of Connecticut, Storrs.

When cling peaches are included in the figures, the 1958 crop was the largest since 1947, states Dalrymple.

Citrus

Nematode Control

RESPONDING to DBCP-type soil fumigants lemon and tangerine trees on nematode-infested light soils increased yields 20% the first year after treatment, according to tests conducted the past four years at University of California Citrus Experiment Station, Riverside.

Dr. Richard C. Baines, plant nematologist at the station, injected Nemagon or Fumazone at 9 to 10 inches in depth.

A 5-gallon rate per acre was applied to sandy soils and 10 gallons to sandy loam. (Only sand and sandy-loam soils can be satisfactorily treated because in heavier soils the fumigant is held in soil particles and fails to diffuse properly.)

Dr. Baines found that some bearing trees could be treated without injury and with substantial increases in yield.—*Neale Leslie.*

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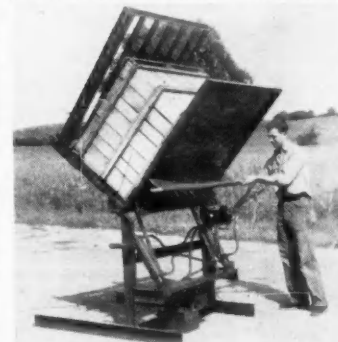
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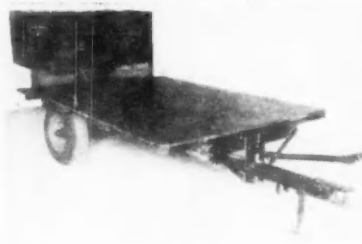
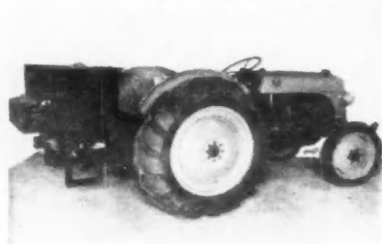


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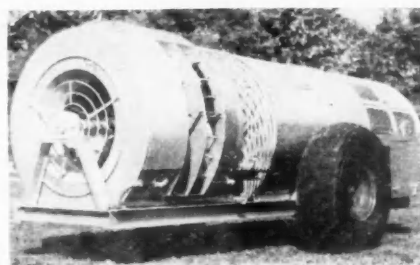
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NEW FOR YOU



Orchard Sprayers

A complete new line of orchard sprayers was introduced last month by F. E. Myers & Bro. Co. These sprayers are designed to handle dilute, semi-concentrate, or concentrate sprays. The 232-series illustrated has a fan that delivers 80,000 cubic feet a minute of air at velocities up to 90 miles an hour. A centrifugal pump produces 120 gallons a minute at 90 pound pressure. If you have a spraying problem, write to Loyal Duffy, F. E. Myers & Bro. Co., Ashland, Ohio, and he will be glad to tell you all about his new sprayers.

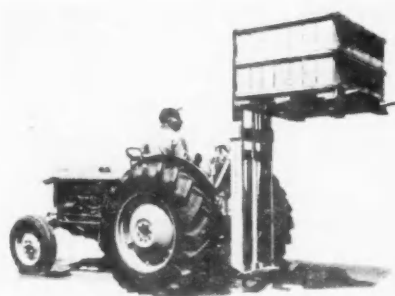


Packing Fruit Trees

In Maryland, one of the oldest nurseries in the United States has developed a new method of packing volume orders by using extendable wirebound boxes similar to what is being used to package industrial products. The boxes are lined with paper and a mixture of moss and cedar shingle shavings are packed in to retain moisture. The packed stock is watered down and reaches the grower fresh and full of life. The new method results in freight savings which is passed on to the customer. To learn more about the new packing method or the fruit tree varieties available, write Homer S. Kemp, Bountiful Ridge Nurseries, Princess Anne, Md.

AMERICAN FRUIT GROWER

- ORCHARD SPRAYERS
- HANDLING BULK BOXES



Fork Lift

Michigan growers like a new fork lift which attaches easily and quickly to the three-point hitch on tractors. Growers report the unit lifts loads of fruit weighing 1500 pounds up to a height of 6 feet. Called the L-3 by the manufacturer, the fork lift stands only 6 feet high when attached and will help handle bulk boxes in both orchard and packing house. The new unit sells for \$595.00 F.O.B. factory, and is one of the best and least expensive we have seen. If you will write Charles Gladden, Jr., Gladden-Haas, Inc., Owosso, Mich., you will get full details.



Rotary Cutter

On an orchard day tour, I saw a new rotary cutter demonstrated. The new machine seems to do everything a grower would expect from a rotary cutter. It will mow as well as distribute mulch, grind and pulverize brush and saplings up to 3½ inches in diameter. Actually designed for the grower, the new machine has a parallel linkage suspension system which keeps the cutter horizontal to the ground regardless of the cutting height. This is a versatile orchard machine and you'll want to know more about it. Write A. R. Bowlzer, New Idea Farm Equipment Co., Division of Avco Distributing Corp., Coldwater, Ohio.

OCTOBER, 1958

"TOUGH" Cuts slow you down? .. get **SPEED** with **PORTER PRUNERS**

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The only pruner with exclusive "Power Shift." Instantly provides that extra cutting power needed for difficult cuts — with just a flick of the handles. Tops for root-cutting, low-height pruning, and general brush clearing. Easiest, quickest way to get clean, close cuts. Two capacities available: 1½" or 2" green wood.

Pointcut Pruner

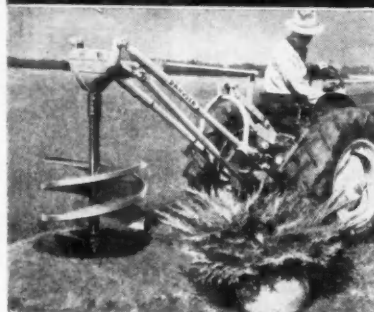
This fast, troublefree pruner is a favorite in orchards and nurseries. Gives a comfortable grip and a long, easy "reach". Special, shear-type blades easily handle capacity cuts in throat — yet neatly nip off sprouts or suckers at points with minimum handle spread. Two sharp blades help cuts heal from both sides. Blades and handles of heat-treated, alloy steel. Length 20" or 24". Cutting capacity: 1¼".

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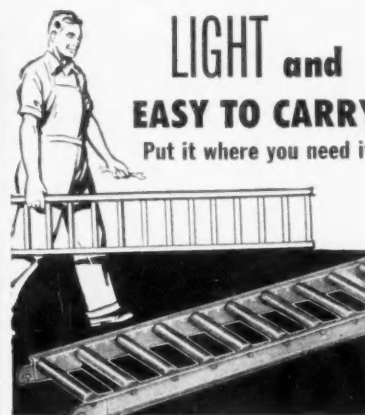
DIG HOLES SITTING DOWN! Your DANUSER DIGGER can pay for itself in saved time and labor because it makes hard jobs easy, requires little maintenance, and lasts a lifetime. It is precision engineered, from the best materials, to stand the strain of moving big amounts of earth. That means it is perfect for heavy jobs like setting seedlings. The 24" auger illustrated is too big for less rugged diggers, yet the DANUSER DIGGER handles it easily. Other auger sizes, from 4" to 18", available for fencing, foundations, many other uses. Write today for literature describing application to your tractor.

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AMERICAN FRUIT GROWER, published monthly at Willoughby, Ohio, for October 1, 1958.

1. The names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, American Fruit Grower Publishing Company, Willoughby, Ohio; Editor, R. T. Meister, Willoughby, Ohio; Managing Editor, None; Business Manager, Edward L. Meister, Willoughby, Ohio.
2. The owner is: If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.
3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: If there are none, so state. None.
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EDWARD L. MEISTER,
Business Manager.

Signed and subscribed before me this 22nd day of September, 1958.

(Seal) **E. P. Jeannet, Notary Public**
(My commission expires Sept. 17, 1959)



By HENRY BAILEY STEVENS

Adapting to the Space Age

"LIKE some other old fruit growers," writes Cecil L. Fallon, of Darwin, Minn., "I stand too much in the sun, thinning apples, and I get messages, like they say, from outer space. Today I had one that might be worth printer's ink:

"Some write prayers on spinning wheels. Others say grace with their meals. For my prayer I plant a tree, And God grows apples there for me."

While I welcomed Mr. Fallon's verse, I must confess that at first I questioned his idea about its origin. Poetry, I told myself, comes from the mind, not the sky. Yet, when I ask myself where the mind is and what are its limitations, my answers are not so glib. He was "standing in the sun." Sunlight certainly has a lot to do with the production of fruit; may it not also have some effect on the ripening of the mind? Sir James Jeans, the physicist, concluded his

book, *The Mysterious Universe*, with the speculation that even substantial matter seems to resolve into a creation of mind.

Our Location in the Universe

IF all this seems vague and baffling, let me present some concrete figuring I have just done after reading astronomical literature as to our location in the universe:

From my home to the center of our village is a brisk 8-minute walk. In this same length of time, if I traveled at the speed of light, I could just about reach the sun. At the same speed I could get to the farthest point in our solar system in 5½ hours. But if I left our system and headed for the next nearest star or sun, Alpha Centauri, the trip would require more than four years!

The other night at a star-gazing party I saw Sputnik seeming to weave in and out of the Great Dipper. Actually the satellite was only 600 miles away—a mere firefly against a backdrop of tremendous suns—dawdling along at only 1800 miles an hour. At such speed a journey to Alpha Centauri would take 150,000 years. Guess that we old boys, Mr. Fallon, had better be satisfied to stay in our own sunlight.

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

TOMORROW'S PATTERN

(Continued from page 9)

has gotten off to a fairly good start and has dynamic leadership is a good answer to the need for integration.

The family farm is not at present well equipped for this transition into integration. Less than one out of 10 boys who enter agricultural colleges goes back to the farm. In other words, we are not meeting the needs of technical know-how among farm operators. Further, the capital requirement is going to be a tough one for the family grower of tomorrow.

Unless we are sufficiently skilled in adapting technology to the family-type operation, fruit growing will either shift to larger units or tend to degenerate into a second-rate type of enterprise. Should the latter happen, it will not be just the producer who will suffer, but also the consumer in terms of poor quality and high prices.

Obviously, the answer lies in providing on-farm opportunities for boys and girls comparable to those off the farm. One of the results of the constant subdividing of farms through inheritance has been to

make farm people conscious of the need for saving. Many families have gone without things enjoyed by their city cousins.

As for marketing agreements, they are a vertical structure that tie together the operations of production, processing, and marketing. They are no better than the people who manage them. In order to get one into existence, grower factions, labor unions, processors, and so forth, have to compromise.

I have sat in on some meetings when canners consistently opposed marketing agreements. Maybe the time has arrived when they need to give some serious thought to alternatives. Maybe there is a better approach, or maybe they can find some way to modify their position about marketing agreements and still leave the producer in as good a position as they are.

Marketing agreements have a place, and in certain situations they do improve things over what they were, but they are not the answer to all the problems of the fruit industry.

At all events, changes are coming, and some of the ideas that have been sketched here will be up for careful consideration by enlightened growers.

THE END.

THE QUESTION BOX

Don't be perplexed! Send us your questions—no matter how big or small. A 4-cent stamp will bring you an early reply. Address: The Question Box, AMERICAN FRUIT GROWER, Willoughby, Ohio.

MAGNESIUM DEFICIENCY

We have been told that our plum trees are suffering from magnesium deficiency. We applied epsom salts but the leaves are still turning yellow and dropping and the fruit is dropping. What can we do now?—Maryland.

Response to soil applications may be slow and irregular, particularly in medium to heavy soils, according to Norman F. Childers in his book, *Fruit Nutrition*. Foliage sprays of magnesium when leaves are young are usually effective, and dolomitic limestone applications, if the soil is acid, along with magnesium fertilizers are the best long-range remedies.

STORING STRAWBERRY PLANTS

I have a large shipment of strawberry plants that have been in cold storage since spring. I have not been able to plant them due to ill health and would like to know the best way to care for them.—Michigan.

They should be left in the original crates (if polyethylene lined) and stored at 30°F., according to John T. Worthington, USDA, Beltsville, Md. If, however, the plants are in moss pack, they will probably deteriorate rapidly due to desiccation.

FRUIT FLIES

My roadside market started off with a bang, but that was also the starting gun for fruit flies. Help!—New York.

Spray the benches, walls, caves, posts, and doors of your roadside market with a solution of 3 tablespoonsful of 25% wettable powder malathion in 1 gallon of water. Two or three baskets containing overripe grapes, peaches, melon rind, and the like, sprayed with the malathion mixture and exposed in the market at night or in some out-of-sight place around the market during the daytime, will help kill off the fruit flies.

SENATOR APPLE VARIETY

I recently purchased an old farm with apple trees that have been identified as the variety, Senator. Could you tell me something of its history?—Pennsylvania.

This variety has been propagated since about 1873 in northwestern Arkansas where it was known as Oliver Red or Oliver. It is supposed to have originated in that region. Later it was sold by Stark Bro's Nurseries under the name Senator. Nursery catalogs no longer list it, but possible sources of scion wood are the Missouri Fruit Experiment Station, Mountain Grove, Mo.; New York State Agricultural Experiment Station, Geneva, N. Y.; and Pennsylvania State University, University Park, Pa.

HOTHOUSE GRAPES

Where can I buy grape plants suitable for greenhouse culture?—New Hampshire.

The California Nursery Co., Niles, Calif., lists Black Hamburg and other varieties suitable for growing under glass.

NEMATODE PROBLEM

I plan to set out a two-acre peach orchard but have discovered that our soil is infested with nematodes. Is there some treatment I can give to the soil before setting out trees?—Arkansas.

Try Doflume W-85 (ethylene dibromide), manufactured by Dow Chemical Co., Agricultural Chemicals, Midland, Mich. Write to them for additional information.

OCTOBER, 1958

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U.S. Plant Pat. #1278

The OLDEST PROVEN Variety of the new early coloring super red sports.

Has all the excellent qualities of its parent plus coloring earlier and attaining a more intense sparkling cherry red color. Attains full color even in the most shaded part of the tree and has a coloring which more nearly reaches its best when the maturity of the apple also is at its best.

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MT. TOP NURSERY, RT. 1, ALTUS, ARKANSAS

• **PROFITABLE ROADSIDE MARKETING.** By R. B. Donaldson and W. F. Johnstone. 142 pages—\$2.00

Willoughby, Ohio

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RUN A SPARE-TIME GREETING CARD and Gift Shop at home. Show friends samples of our new 1958 Christmas and All Occasion Greeting Cards and Gifts. Take their orders and earn to 100% profit. No experience necessary. Costs nothing to try. Write today for samples on approval. REGAL GREETINGS, Dept. 4, Ferndale, Michigan.

PACIFIC NORTHWEST'S LARGEST FRUIT tree nursery needs spare-time agents to sell complete line of quality fruit trees. Take orders for the newest and latest patented varieties. No experience necessary. Write today. Sales Department, VAN WEL NURSERY, Wenatchee, Washington.

BOOKS

THE HOW-TO BOOK ON STRAWBERRIES. The layman's primer, the professional's reference and everyone's factual guide to more and better strawberries. \$1.50. AMERICAN FRUIT GROWER, Box 159, Willoughby, Ohio.

FOR EDUCATION, PLEASURE AND profit, read "ADVENTURES IN BEEKEEPING." A new story, \$2.00. ROBERT OGLESBY, R.R. 1, Middletown, Ohio.

BERRY BOOK: "THIRTY YEARS OF BERRIES." Raspberries and Strawberries. 84 pages, price \$1.00 P/Paid. ROY TURNER, 1525 S. Lavington St., Peoria, Ill.

BUSINESS OPPORTUNITIES

GUARANTEED MARKET! EARN READY cash raising fishworms for us! Backyard, garage, basement! We buy your crop! Exciting details free! OAKHAVEN-25, Colar Hill, Texas.

EARN CASH FROM STRAWBERRY SALES! Get our How-To Book on Strawberries that gives common sense treatment of the must and must-not in strawberry culture. Fully illustrated. \$1.50. AMERICAN FRUIT GROWER, Box 159, Willoughby, Ohio.

FOR SALE: MODERN BASKET FACTORY. Have been in business for 50 years. Price \$32,000. Owner retiring. Write ANDOVER BASKET MFG. CO., Andover, Ohio.

SACRIFICING NURSERY, RETIRING! ESTABLISHED 1918, 40 acres; nursery stock, Filberts, office buildings, large parking sheds, barn, other buildings. PLUS 2-story modern brick colonial home, full basement, double garage, West Coast, federal highway location. AMERICAN FRUIT GROWER, Box 192, Willoughby, Ohio.

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MODERN AUTOMATIC ELECTRIC CIDER presses to roadside stands and small orchards. Presses 10 gallon to 15,000 gallon capacity. Everything for the cider maker, ball bearing graters, press racks, cloths, packing, valves, labels, filters, pasteurizers, bottling equipment. Write for supply catalogue. W. G. RUNKLES' MACHINERY CO., 185 Oakland St., Trenton 8, N.J.

SANITARY CIDER MAKING EQUIPMENT. Write for our latest catalog showing containers, fillers, cider supplies, filters, Palmer presses and parts for all mills—featuring the newest of Easy to Clean high capacity graters. ORCHARD EQUIPMENT AND SUPPLY COMPANY, Hill Street, Bristol, Connecticut.

CIDER MILL SUPPLIES: USED PRESSES. Cylinder packings, hydraulic cylinders, hydraulic pumps, nylon and cotton press cloths, press racks, complete engineering service available along with all types of used processing equipment for apple juice industry. Write for our prices. DAY EQUIPMENT CORPORATION, 118 W. Lafayette St., Goshen, Indiana, Ph 3-1692.

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TWO BEAUTIFUL OILCOLOR 8x10. ENLARGEMENTS from any photo or negative (retained) \$1.00. PORTRAITCO, A780, Sweetwater, Texas.

FOR SALE—EQUIPMENT & SUPPLIES

BUY SURPLUS DIRECT FROM GOVERNMENT at tremendous savings. Farm tools, machinery, truck, jeep, tractor, power units, hand-dredgers listed in our bulletin. Price \$1.00. GOVERNMENT SURPLUS SALES, Box 169AR6, East Hartford 8, Conn.

SAVE up to 40% on—CHRYSLER INDUSTRIAL-IRRIGATION UNITS. Our own special irrigation unit costs only \$1695.00, and includes CHRYSLER'S big 354 cubic inch V8 engine plus all the accessories to make it run. 6 cylinder units as low as \$1195.00. Write for information. Dealer inquiries invited. Midwest Parts Corporation, Box 394, Gary, Indiana.

FOR SALE: SEVERAL GOOD USED POWER sprayers (Myers and Bean) which have been traded in new Myers Concentrate Sprayers to our Ohio dealers. We also have in stock an especially good used Buffalo driven concentrate machine. WATER SUPPLIES, Ashland, Ohio. Phone: 2-1505.

CHRYSLER ENGINES AND PARTS for John Bean and Speed Sprayers plus other equipment, in stock. Immediate delivery. Midwest Parts Corporation, Box 394, Gary, Indiana.

70,000 NEW CRATES, SPEED SPRAYER, Bean Royal 35 P.T.O. Sprayer, 35, 50, 55 Royal Bean Pumps, Niagara Duster, Grader, Cleaner, Packing Horse Equipment, Bomber Tires and Tubes, Barriains. CORY ORCHARDS, Cory, Indiana.

WOOD LETTERS FOR ATTRACTIVE SIGNS. Inexpensive, Permanent. NORTHLAND PRODUCTS, Route 2282-GR, Rockland, Maine.

New and remanufactured INTERNATIONAL HARVESTER ENGINES and POWER UNITS. Special Full clearance sale. Midwest Industrial Company, 835 No. Capital, Indianapolis, Indiana.

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BANANA PLANT, GROWS ANYWHERE—indoors, outdoors. \$1.50. Postpaid. P. SULEN, Lady Lake, Fla.

WISCONSIN CHEDDAR CHEESE 2 LBS. milk, \$1.50. Medium \$1.70. Sharp \$1.95. 4 lb. lots, Mild \$2.00. Medium \$2.20. Sharp \$2.20. Plus Postage. THIELS MILK PRODUCTS, Sherwood, Wisconsin.

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SEW APRONS AT HOME FOR STORES. No charge for material to fill orders. In our fourth successful year. Write: ADCO MFG. CO., Bastrop 8, Louisiana.

SHINE SHOES WITHOUT "POLISH". NEW invention. Lightning seller. Shoes gleam like mirror. Samples sent on trial. KRISTEE 102, Akron, Ohio.

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65 ACRES, WONDERFUL INVESTMENT property, 3,500 early variety plums for northern market, 200 paper-shell pecans. Equipped. Manager's home. This is suburban land with 2,000 feet U. S. Highway frontage, \$20,000 home, will sell separately. W. D. HUMPHREY, Route 3, Palestine, Texas.

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RED RASPBERRY PLANTS, THE LARGEST, best selling berry grown. Best shipper, good conical flavor. For information and prices write to: RALPH MATHISON, Route 2, Alpena, Michigan.

PRUNING, GRAFTING FRUIT TREES

"PRUNING MANUAL", "GRAFTER'S HANDBOOK". Complete books on pruning, grafting fruit trees, plants. Each \$8.75 Postpaid. PHILLIPS BOOK COMPANY, Box 453, Roncove, W. Va.

RABBITS

RAISE ANGORA, NEW ZEALAND RABBITS or more on \$500 month plan. Free details. WHITE'S RABBITRY, Delaware, Ohio.

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EXPERIENCED ORCHARD MANAGER, DE- sires responsible position with large orchard business. Prefer Eastern states. AMERICAN FRUIT GROWER, Box 192, Willoughby, Ohio.

MARRIED MAN WITH FAMILY WANTS job on stocked farm or orchard. JAMES ROUSCH, Route 2, Mifflintown, Pa.

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WANTED: HICAN NUTS TO BUY BY THE POUND. State amount you have. FRANK BREWSTER, Baxter Springs, Kansas.

Are YOU a Nursery Salesman?

Add to your income by selling AMERICAN FRUIT GROWER. It's a logical combination, for AMERICAN FRUIT GROWER will help your customers get the best results from the nursery stock you sell them.

Write today for our liberal, nursery agents' plan. Address:

EDWARD MEISTER, Circulation Manager

AMERICAN FRUIT GROWER
Willoughby, Ohio

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AMERICAN FRUIT GROWER
WILLOUGHBY, OHIO

MARKETING

AN AMERICAN FRUIT GROWER REPORT

Animals Gain on Apple Waste

HERE'S good news for Virginia apple growers. Beef animals gained weight when fed pressed apple cores, stems, and peelings as an experimental winter roughage during a recent test. Research at Virginia Agricultural Experiment Station and USDA's Beef Cattle Research Station at Front Royal show that pomace—apple leftovers—is as nutritious as locally-grown feedstuffs. Growers who annually produce several thousand tons of pomace each year in processing apples for cider may have a new outlet for this waste product.

Too Much In-State Competition

GROWERS whose citrus is earmarked for fresh fruit markets could save themselves \$25 million a year if in-state sales competition can be reduced and efforts "consolidated".

That's the conviction of James C. Morton, superintendent, Waverly Growers Co-operative.

Morton pointed out that in-state competition was not only reducing the returns to growers, but resulted in lower prestige for the Florida product and confusion of buyers. He favors a "stable market" operated on a "consolidation of efforts" basis by a group or groups similar to those in California. "I believe if we could eliminate a good portion of in-state competition, we could get from 25 to 50 cents more per box of fresh fruit," he said.

It had been traditional, he explained, that Florida oranges and other citrus yielded less cash returns than the California product. "It may be because California growers are strongly organized in trade agencies and there is little in-state competition there," he said.

Morton reported that this, generally, had been a boom year for citrus. Recently, fresh Florida interior Valencia brought \$6.31 and the average for California was \$9.25 per box. And California's boxes are not as large as Florida's, he added.

Pat on the Back

NEW JERSEY strawberries received a pat on the back on the "McCanns at Home" food program, station WOR, New York, during the peak of the past season. The consumer information series was sponsored by New Jersey Strawberry Industry Committee and marked the first promotional program of the type undertaken by the group.

A Hit with Germans

FLORIDA oranges are getting a big play in German publications. A double-page ad, in color, from a German magazine tells all about the fruit. The heading reads "Frisch vom Baum auf den Tisch!" (Fresh from the Tree to the Table).

It's Good in Cake Mixes

SUNKIST Growers of California has found another use for a citrus by-product. "Seel-Peel" is dehydrated orange peel used in prepared muffin and cake mixes. The product is manufactured at the company's plant in Ontario, Calif., and the

entire production currently is being utilized by the nation's largest maker of prepared baking mixes.

Closer Identification

CALIFORNIA Prune and Apricot Growers Association is sporting a new name. The organization is now known as Sun-sweet Growers, Inc. The change will identify the group more closely with the brand names of its dried fruit products.

Eye Younger Generation

WASHINGTON State Apple Commission is eyeing the younger generation of American families as its prime target for the 1958-59 marketing season.

Continuing the search for new customers for Washington apples, the commission has indicated it will gear its advertising program to appeal to children and parents through the children. USDA figures reveal that 1½ million new homes are established in this country each year; that 44% of the consumer families buying 16 pounds or more apples per month are those with young children; and that 28% of the new families buy 5 to 16 pounds of apples each month.

Marching Forward

FLORIDA Citrus Commission is marching forward with its program for positive identification of all labels and products with the word *Florida*.

Starting as early as March of this year, the commission began discussions on ways to tie in *Florida* in the advertising as well as on fruit and can labels.

The commission will spend nearly \$4 million next year advertising Florida citrus directly to consumers. Homer E. Hooks, manager, has invited shippers and canners to identify their products with this big ad program as "very good business."

It's Up to Growers

LOOK for more references in grower circles to the idea that supermarkets are primarily display space for presold, pre-packaged products. This idea seems to explain adequately the job growers must do in order to get their share of the consumer's dollar.

If the supermarket won't sell it, but merely display it, then it is up to the grower to pay more attention to the promotion of his crop. Amount of grower-contributed money to advertise various fruits nationally is bound to go up.

Promotion with a Personal Touch

A PERSONAL touch sparked promotion of Michigan peaches this past season. Postal cards were used by growers to inform customers of the impending harvest.

The reverse side of the card bore the following printed message:

Dear Friend, They're here . . . these luscious sun ripened Michigan peaches! I hope you will come for yours while they're at peak flavor. Here are the varieties and ripening dates: Redhaven . . . ; Fairhaven . . . ; Halehaven . . . ; Calhaven . . . ; Red-skin . . . ; Elberta . . . I've never picked a finer crop, so plan your trip now. Yours for Michigan peaches.

Growers simply filled out the harvest dates and addressed the signed cards.

DWARF'S

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and

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OUR

SPECIALTY

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More Ag Students in Russia

WITH only half the total number of college students as the United States, Russia is turning out 2½ times more agricultural graduates today.

E. T. York, Jr., of Washington, D. C., cites this fact as an indication that the Russians are in the process of launching a rocket of improved agricultural technology that could have a greater impact upon the struggle for world freedom than earth

At present, we are well ahead in the development and application of agricultural science. Why is it so important that we stay ahead.

Continued improvements in our agricultural technology have enabled us to produce more per acre and reduce manpower requirements through mechanization. Today, only 12% of our people are engaged in farming, compared with 90% during President Washington's first term of office. Millions who would have had to farm are now free to build automobiles, TV sets, new homes, highways, and other conveniences.

If Russians could equal our current capacity to produce food and other needed agricultural products, they would have some 60 to 70 million farm people free to do other things. What manpower would be available to build an even greater war machine!

What can we do to stay ahead? Here are some suggestions by York:

Make sure that we have enough well-trained agricultural specialists. Opportunities for college graduates in agriculture are greater today than ever before. Agricultural colleges all over the country need two to three times the number of graduates.

We also should review educational requirements, both in college and in preparatory schools, with careful consideration given to increasing the requirements in mathematics and basic sciences.

Lastly, we should create a more systematic program to keep up with latest foreign developments in agricultural technology.

TOO MUCH COLOR?

ARE we placing too much emphasis on red color in apples? L. D. Arnold, sales manager of the world's largest apple orchards, H. F. Byrd, Inc., Winchester, Va., believes we are. Here are some of his thought-provoking comments:

For some years there has been an increasing effort throughout the apple industry to produce and market apples of solid red color. It is the general impression that such high color is demanded by the consumer.

Some of us are beginning to wonder whether this is entirely true. Last year Wall Street Journal carried an article stating that as a result of actual tests in the market the apple that has about two-thirds red color has more eye appeal to the housewife than the solid red apple.

I believe the industry should give serious thought to this problem and have more widespread surveys made in the markets to determine whether it is fact or fiction that apples must have extremely high color to catch the purchaser's eye and give her the impulse to buy.

Certainly many of the troubles of the past apple season have arisen from the effort of growers to obtain maximum color. Too often the delay in waiting for high color led to over-maturity and internal breakdown of the fruit, with disastrous results.

I think no one will dispute the statement that a firm, juicy apple with moderate color is preferable to a solid red apple that is over-ripe. The first apple has a chance. The second one never has a chance. The matter of condition is of the highest importance to the apple industry.

Are we over-emphasizing color? If so, the growers are wasting a lot of effort and losing considerable money by throwing out moderately colored apples and packing only those of solid or near-solid red. It seems to me the industry should give serious study to this problem and that some of our trade organizations should conduct surveys to establish the facts.

satellites and intercontinental missiles. Let's take a look at what he has to say:

In 1953, over 10% of Russia's college graduates were in agriculture, compared with 2.2% in our country.

An increase of almost 80% was noted in the number of students graduating from Soviet agricultural colleges from 1948 to 1954, compared with a 30% decline in the U. S.

Recognizing that much of the progress in agricultural technology depends on the application of the fundamentals of the physical and biological sciences, the Soviets are going all out in training their agricultural students in these fields. The Russians are also using every available opportunity to take advantage of existing agricultural know-how from this country and other parts of the world.

Fruit Talk

"An apple a day is the doctor's way" says Paul Stark, Jr., of Missouri, in a switch on the old adage "An apple a day keeps the doctor away." Dr. E. H. Lucas, of Michigan, adds, "More apples a day is the doctor's way".

Watkins, of John Innes Horticultural Institution (England), feels that the solution to the dwarf cherry tree problem lies in finding dwarf mutants of the sweet cherry to use as rootstocks rather than in trying to use other species of cherry with dwarfing characteristics.

Brown sunken areas in prune fruit and bushy branch decline have been associated with boron deficiency (25 ppm or less of boron) in California by Hansen, Proebsting, and Torpen.

Of 40 million bushels of freestone peaches produced in 1957, 28 million bushels were sold fresh, 6 million canned, 2 million dried, 1½ million frozen, and 2 million used on the farm.

The United Fresh Fruit and Vegetable Association reports that a survey among 1972 women brought out the fact that more women complain about the quality and handling of perishables than about prices.

Contrary to what many people believe, most frozen fruits are fighting for survival, says Dr. George Borgstrom, of Michigan. Orange juice and strawberries are booming, but the per capita consumption of all frozen fruits shows no gain.

Eating for healthy old age starts early in life. The man of 70 is what he is, not only because of what he eats today, but what he ate yesterday, a year ago, or even 50 or 60 years ago, says Dr. Max Millman in emphasizing the value of fruits and vegetables in the diet.

The "route" system used in Florida for crop reporting works with amazing efficiency and accuracy. It is based upon 1500 miles of highway in Florida which are faced by 175,000 rows of citrus trees. Rows are identified as to variety, age, and type, and provide an excellent cross-section sampling.

Foliar sprays of urea to Cox apples on Malling IX at one-to three-week intervals for four applications materially improved fruit set and yield in Holland.

Mechanical harvesting of cucumbers is fast approaching; tomatoes are being bred for one-crop mechanical harvesting. The time must come when more mechanical assistance is applied to fruit crops.

Dr. Ralph Bircher, of Zurich, Switzerland, has studied populations with low incidence of disease and attributes their health to a predominantly vegetable diet, an abundance of raw food, prominence of fruit in the diet, abstinence from stimulants, sparing use of salt, restricted food consumption, and observance of a fast period. —H.R.T.

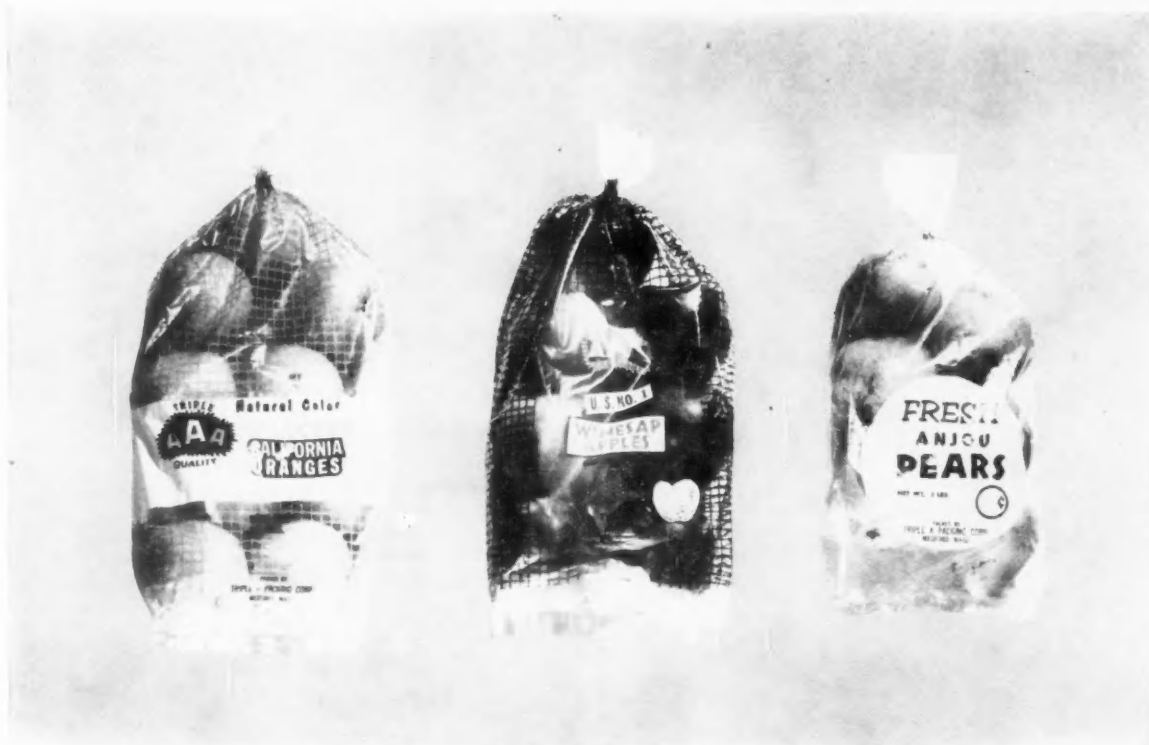
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- Growers' Formula for Success with Apples
- Fruit Areas of America—Oregon
- How to Grow Quality Grapes
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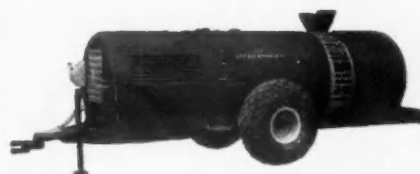
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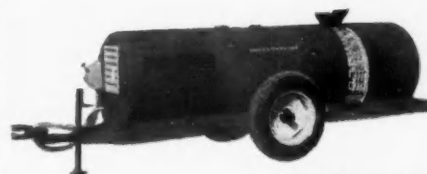
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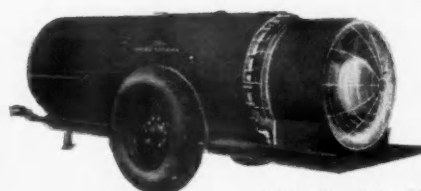
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